SHARP SERVICE MANUAL

CODE : 00ZXEA202VSME

ELECTRONIC CASH REGISTER

MODEL XE-A202

(V version)

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Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

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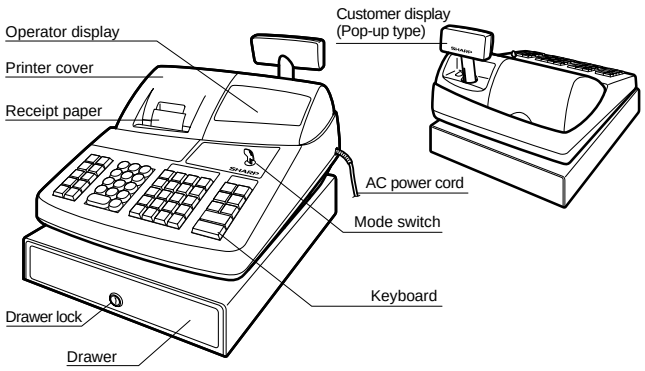
The contents are subject to change without notice.

CHAPTER 1. SPECIFICATIONS

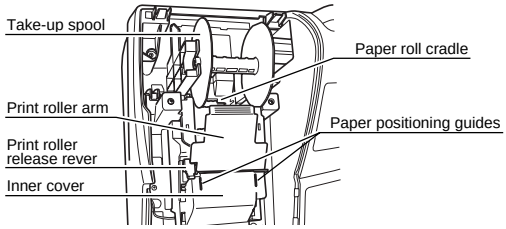
1. APPEARANCE

■ **Front view**



■ **Rear view**

■ **Printer**



2. RATING

	XE-A202
Weight	11.3kg
Dimensions	421 (W) x 429 (D) x 305 (H) mm
Power source	220V~230V (±10%) 50/60Hz 230V~240V (±10%) 50Hz
Power consumption	220V~230V: Stand-by 8.8W Operating 35W (max) 230V~240V: Stand-by 9.2W Operating 36W (max)
Working temperature	0°C~40°C (32°F to 104°F)

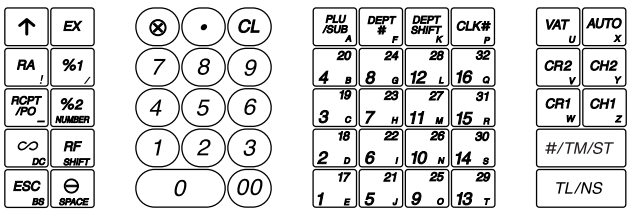
3. KEYBOARD

1) KEYBOARD LAYOUT

Type	Normal keyboard
Key position	STD/MAX 52
Key pitch	19 (W) x 19 (H) mm
Key layout	Fixed type

2) KEY LIST

■**Keyboard layout**



Note: The small characters on the bottom or lower right in each key indicates functions or characters which can be used for character entries for text programming.

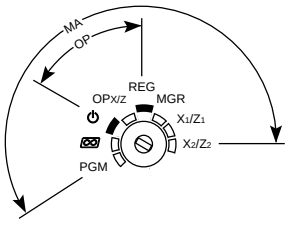
■**Key names**

KEY TOP	DESCRIPTION
↑	Paper feed key
RA	Received-on account key
RCPT/PO	Receipt print/Paid-out key
∞	Void key
ESC	Escape key
EX	Foreign currency exchange key
%1, %2	Percent 1 and 2 keys
RF	Refund key
⊖	Discount key
⊗	Multiplication key
•	Decimal point key
CL	Clear key
00, 0~9	Numeric keys
PLU/SUB	PLU/Subdepartment key
DEPT #	Department code entry key
DEPT SHIFT	Department shift key
CLK#	Clerk code entry key
1-17~16-32	Department keys
VAT	Value added tax key
AUTO	Automatic sequence key
CR1, CR2	Credit 1 and 2 keys
CH1, CH2	Cheque 1 and 2 keys
#/TM/ST	Non-add code/Time display/Subtotal key
TL/NS	Total/No sale key

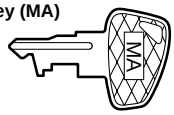
4. MODE SWITCH

1) LAYOUT

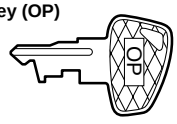
• Rotary type



Manager key (MA)



Operator key (OP)



The mode switch can be operated by inserting one of the two supplied mode keys - manager (MA) and operator (OP) keys. These keys can be inserted or removed only in the “REG” or “OFF” position.

The mode switch has these settings:

⏻: This mode locks all register operations. (AC power turns off.) No change occurs to register data.

OP X/Z: To take individual clerk X or Z reports, and to take flash reports.

It can be used to toggle receipt state “ON” and “OFF” by pressing he [RCPT/PO] key.

REG: For entering sales.

PGM: To program various items.

VOID: Enters into the void mode. This mode allows correction after finalizing a transaction.

MGR: For manager’s entries. The manager can use this mode for an override entry.

X1/Z1: To take the X/Z report for various daily totals.

X2/Z2: To take the X/Z report for periodic (weekly or monthly) consolidation.

5. DISPLAY

1) OPERATOR DISPLAY

Display device : LED numeric display

Number of line : 1 line

Number of positions : 10 positions numeric display

Color of display : Yellow / Green

Character form : 7 segment + DP

Character size : Numeric 14.2 (H) x 7.9 (W) mm

Layout:

0 . 1 . 2 . 3 . 4 . 5 . 6 . 7 . 8 . 9 .

2) CUSTOMER DISPLAY

Display device : LED

Number of line : 1 line

Number of positions : 7 positions

Color of display : Yellow / Green

Style : Pop up type

Character form : 7 segment + Dp

Character size : 14.2mm (H) x 7.9mm (W)

Layout:

3 . 4 . 5 . 6 . 7 . 8 . 9 .

Operator display **Customer display (Pop-up type)**

Amount: Appears in the far-right eight (max.) positions. When the amount is negative, the minus symbol "-" appears before the amount.

Number of repeats for repetitive registrations:

The number of repeats is displayed, starting at "2" and incremental with each repeat. When you have registered ten times, the display will show "0." (2 → 3 .... 9 → 0 → 1 → 2 ...)

Receipt function status:

The indicator "_" appears in the RCPT OFF position when the receipt function is in the OFF status.

Time: Appears in the second to sixth positions (using 24-hour format) in the OP X/Z, REG or MGR mode. In the REG or MGR mode, press the [#/TM/ST] key to display the time.

■Machine state symbols

P: Appears during programming.

E: Appears when an error is detected.

o: Appears when the subtotal is displayed or when the amount tendered is smaller than the sales amount.

c: Appears when the [EX] key is pressed to calculate a subtotal in foreign currency.

F: Appears when a transaction is finalized by pressing the [TL/NS], [CH1], [CH2], [CR1] or [CR2] key.

C: Appears when the change due amount is displayed.

E-E: Appears in the far-left three positions at the timing of key entry when the electronic journal (EJ) memory is full. (Depending on programming.)

L: Appears when the voltage of the installed batteries is under the required level. You must replace with new ones within two days.

L: Appears when the batteries are not installed, or the installed batteries are dead. You must replace with new ones immediately.

•: May appear right below the eighth and ninth places at the timing of finalization of a transaction when the electronic journal (EJ) memory is nearly full.
Also appears right below the tenth place when power save mode is effective.

E-EU: Appears when programmed date (and time) for EURO modification operation is come.

H: Appears when the print roller arm is not locked.

PPPPPPPPPP :Appears when the paper is not set or out.

Segment

	Display position	Description
Amount	1-8	
Minus sign	2-10	-: Floating
Error	8-10	Exx:xx = error code
PGM Mode	10	P
CASH, CHECK, CHARGE	10	F: Light up when a registration is finalized by depressing CASH, CHECK, CHARGE key
SUB TOTAL/ short tender	10	o
Change	10	C: Light up whenever the change due amount appears in the display.
Currency Conversion	10	c: Light up whenever the foreign amount appears in the display.
Department	9-10	No zero-suppressed
PLU	7-10	No zero-suppressed
Repeat	8	Endless count, starting from 2.
Receipt OFF	9	_
DC		_: Double size character entry status
SHIFT		_: Shift character entry status
NUMBER		_: Number character entry status
Clerk No.	2, 3	-xx-: clerk number
EJ FULL	8-10	E-E: Light up when EJ memory is FULL at the timing of key entry (by PGM selection).
Low Battery	10	L:
No Battery	10	$_{L}$:

Decimal Point

	Display position	Description
Decimal point	7-1	
TAB	4-1	
EJ near full	8, 9	(by PGM selection)

6. PRINTER

1) Printer

- Part number : M-T53II
- NO. of station : 1 (Receipt or journal)
- Validation : No.
- Printing system : Line thermal
- No. of dot : 288 dots
- Dot pitch : Horizontal 0.167mm
  Vertical 0.174mm
- Font : 10 dots (W) × 24 dots (H)
- Printing capacity : max. 24 characters/Line
- Character size : 1.67mm (W) × 4.17mm (H) at 10 × 24 dots
- Print pitch : Column distance 2.0mm
  Row distance 5.21mm
- Print speed : Approximate 60mm/s (Approximate 12 l/s)
- Paper feed speed : Approximate 60mm/s (Approximate 12 l/s)

  (Manual feed) : Approximate 60mm/s (Approximate 12 l/s)
- Reliability : Mechanism LIFE 6 million lines used to high-quality thermal paper
- Paper end sensor : Set up
- Cutter : No
- Near end sensor : No

2) Paper

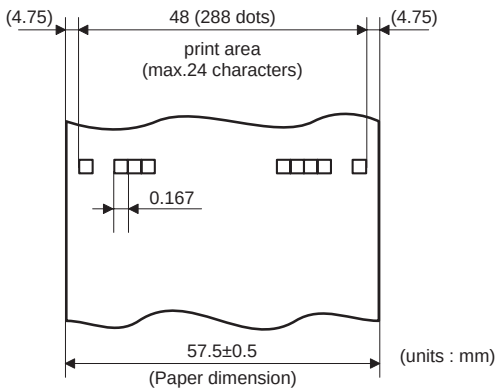
- Paper rolldimension: 57.5 ± 0.5mm in width
  Max. 80mm in diameter
- Paper quality: High-quality thermal paper
  paper thickness: 0.06 to 0.08mm

3) Logo stamp

- No

4) Printing area

Number of thermal head heater elements 288 dots



7. DRAWER

[OUTLINE]

- Standard equipment: Yes (1)
- Max. number of additional drawers: 0
- The drawer consists of:

  1) Drawer box (outer case) and drawer

  2) Money case

  3) Lock (attached to the drawer)

[SPECIFICATION]

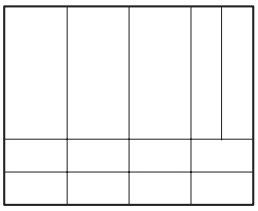
1) DRAWER BOX AND DRAWER

Model name of the drawer box	SJ-420
Size	355 (W) x 424 (D) x 125 (H) mm
Material	Metal
Bell	–
Release lever	Standard equipment: situated at the bottom
Drawer open sensor	Yes

2) MONEY CASE

Separation from the drawer	Allowed
Separation of the bill compartments from the coin compartments	Allowed
Bill separator	–
Number of compartments	5B/8C

Layout:



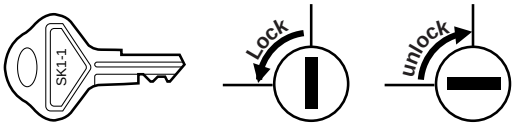
5B/8C

3) LOCK (LOCK KEY : LKGIM7331BHZZ)

- Location of the lock: Front
- Method of locking and unlocking:

  To lock, insert the drawer lock key into the lock and turn it 90 degrees counter clockwise.
  To unlock, insert the drawer lock key and turn it 90 degrees clockwise.

- Key No: SK1-1



8. BATTERY

1) MEMORY BACK UP BATTERY

For memory back up, the dry battery AA (3 pieces) are needed.

1. Memory holding time:

   Approx. 1 year after New dry batteries are installed.

2. Battery exchange method:

   When the low battery symbol “L” lights up, replace the batteries (3 AA) by the following method;

   1) Power on the ECR.

   2) Mode switch turn to “REG” mode.

   3) Remove the OLD dry batteries (3 pieces).

   4) Insert the NEW dry batteries (3 pieces).

   5) Confirm the low battery symbol “L” is off.

2) LOW BATTERY

Low battery indication will appear on the left side of display when the battery voltage is low.

CASE 1: When any numeric entry & any item entry is not done or just after finalization.

The machine can indicate the low battery condition. (Always)

CASE 2: When numeric entry or item entry is done.

Battery condition will not appear.
Exceptionally, when the power is restored after a power failure, the low battery condition will appear on the display only when the battery is low.
And the indicator will disappear after any key entry.

[Display sample]

“ 0.00” : Battery is OK.
“L 0.00” : Low battery (You have to change the batteries.)
“L 0.00” : No battery (You have to change the batteries immediately.)

After finalization

“F 12.34” : Battery is OK.
“L 12.34” : Low battery. (“L” indicate instead of “F”.)
“L 12.34” : No battery. (“L” indicate instead of “F”.)

Note: “NO BATTERY”: When the “NO BATTERY” is display, the master reset is executed at the timing of “POWER ON” after the “POWER OFF”.

CHAPTER 2. OPTIONS

1. OPTIONS (No)

2. SERVICE OPTIONS (No)

3. SUPPLIES

NO	NAME	PARTS CODE	PRICE RANK	DESCRIPTION
1	Roll paper	TPAPR2377RC05	AY	5roll/pack

4. SPECIAL SERVICE TOOLS

NO	NAME	PARTS CODE	PRICE RANK	DESCRIPTION
1	RS-232 Loop-back connector	UKŌG−6705RCZZ	BU	
2	POS tools3 (IPL Software)	Software	–	

CHAPTER 3. MASTER RESET AND PROGRAM RESET

1. MASTER RESETTING

Master resetting clears the entire memory and resumes initial values.

Master resetting can be accomplished by using the following procedure:

Procedure A:
1) Plugin the AC cord to the wall outlet.
2) Set the mode switch to REG position.
3) Let the ECR be witout the memory backup battery.
4) Unplug the AC cord from the wall outlet.
5) Wait over 1 minute for discharging.
6) Plugin the AC cord to the wall outlet.

The master reset can also be accomplished in the following case.

In case power failure occurs when the machine has no battery attached to it, the master reset operation is automatically performed after the power has been restored.

(This is because if power failure occurs with no battery attached to the machine, all the memories are lost and the machine does not work properly after power recovery; this requires the master reset operation.)

2. PROGRAM RESETTING (INITIALIZATION)

This resetting resumes the initial program without clearing memory.

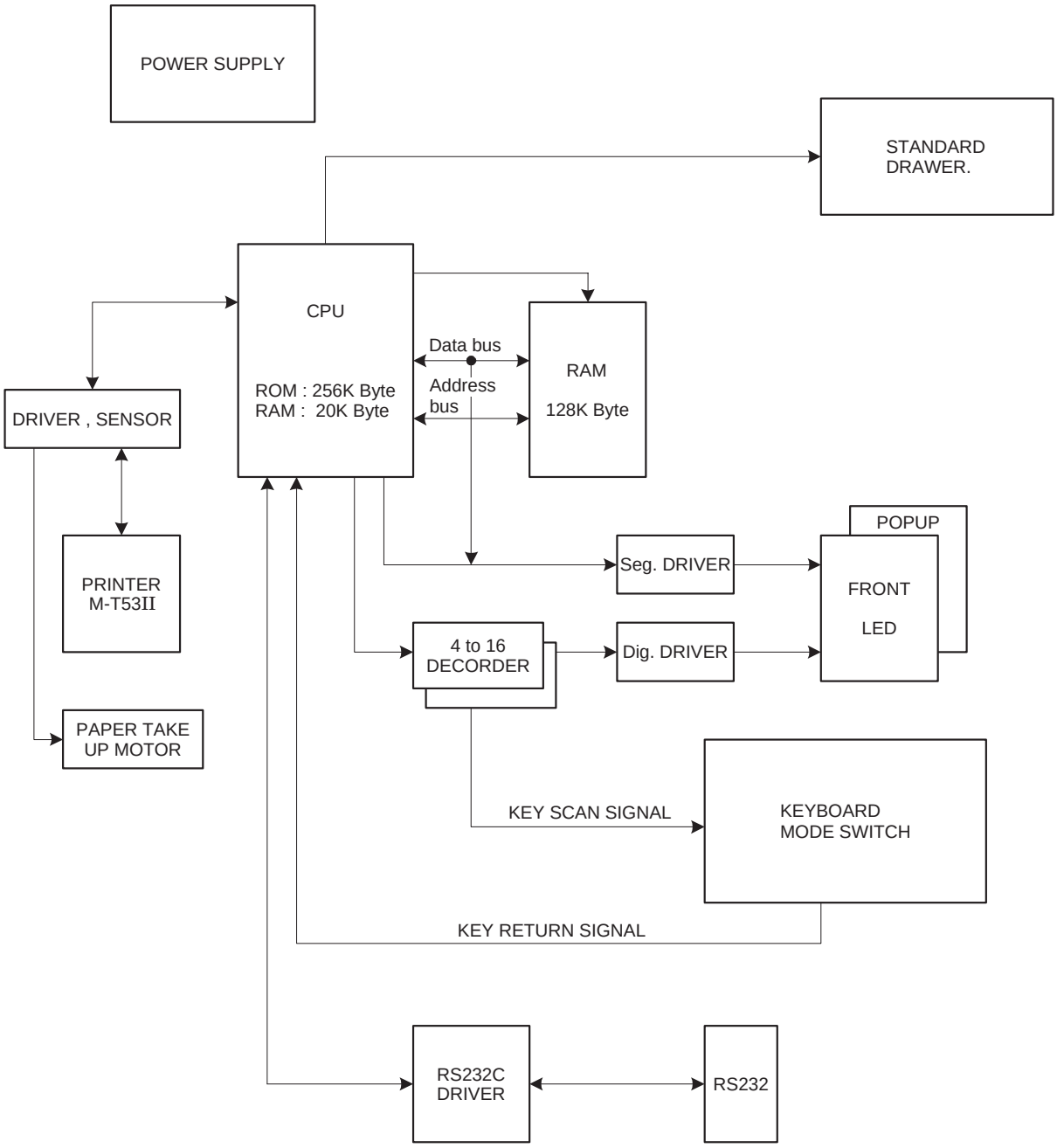
This resetting can be operated at below sequence in PGM mode.

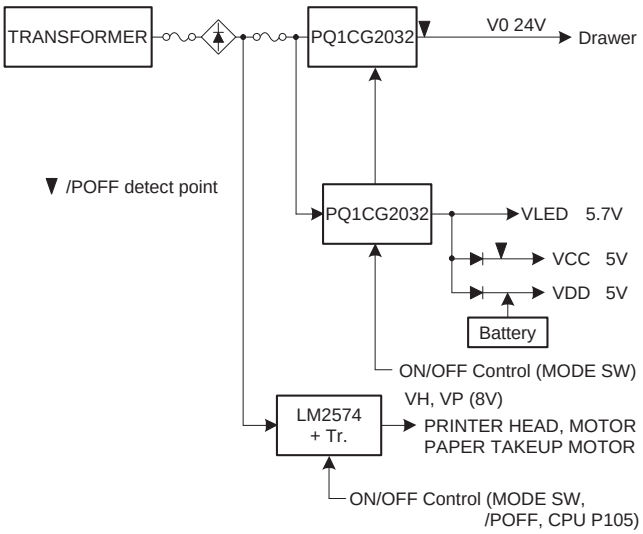
Procedure:
1) Unplug the AC cord from the wall outlet.
2) Wait over 1 muinite for discharging.
3) Set the mode switch to the PGM position.
4) While holding down the FEED key, plugin the AC cord to the wall outlet.

Note: In case power failure occurs when the machine has no battery attached to it, the master reset operation is automatically performed after the power has been restored.

CHAPTER 4. HARDWARE DESCRIPTION

1. HARDWARE BLOCK DIAGRAM

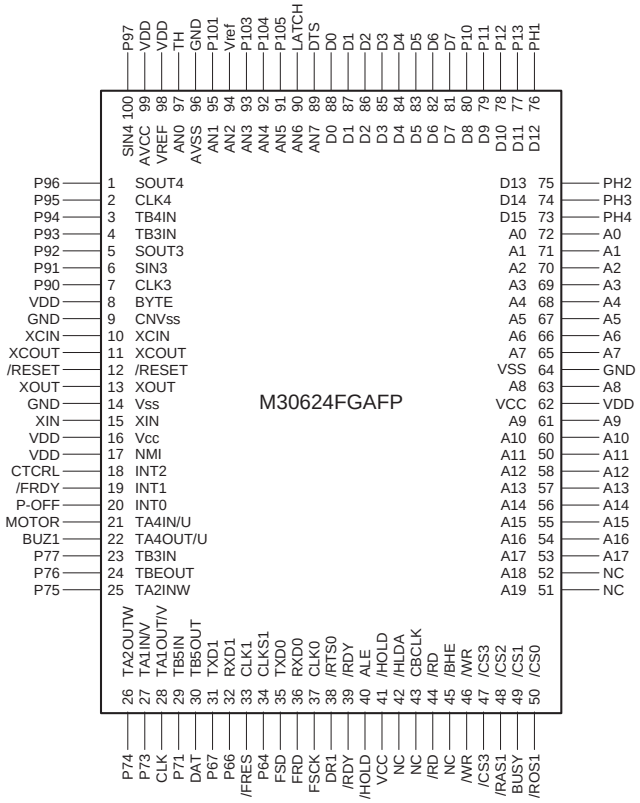




2. DESCRIPTION OF MAIN LSI'S

2-1. CPU (M30624FGAFP)

1) Pin configuration



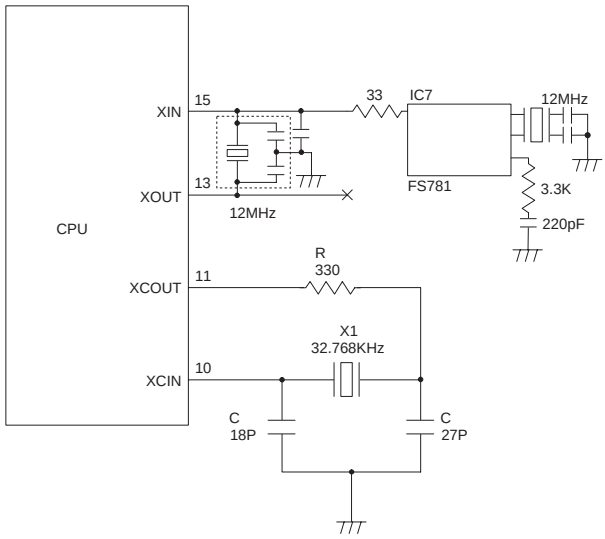
2) Pin description

Pin No.	SYMBOL	SIGNAL NAME	In/ Out	Function
1	SOUT4	P96	In	Key IN
2	CLK4	P95	In	Key IN
3	TB4IN	P94	In	Key IN
4	TB3IN	P93	In	Key IN
5	SOUT3	P92	In	Key IN
6	SIN3	P91	In	Key IN
7	CLK3	P90	In	Key IN
8	BYTE	VDD	In	VDD
9	CNVss	CNVss	In	Normal : L Booting : H
10	XCIN	XCIN	In	Calender clock :32.768KHz
11	XCOUT	XCOUT	In	Calender clock :32.768KHz
12	/RESET	/RESET	In	Reset
13	XOUT	XOUT	Out	Open
14	Vss	Vss	In	Vss
15	XIN	XIN	In	System clock
16	Vcc	VDD	In	VDD
17	NMI	P85	In	Not used
18	INT2	P84	Out	PRINTER/STB2
19	INT1	/RDY	In	NU FMC (/RDY)
20	INT0	P-OFF	In	Power off
21	TA4IN/U	MOTOR	Out	Paper take up motor drive
22	TA4OUT/U	BUZ1	Out	Buzzer drive
23	TB3IN	P77	In	RS232 :DR
24	TBEOUT	P76	In	RS232 :CS
25	TA2INW	P75	In	RS232 :CD
26	TA2OUTW	P74	Out	RS232 :ES
27	TA1INV	P73	Out	Drawer drive 2
28	TA1OUT/V	CLK2	Out	Printer data clock
29	TB5IN	P71	Out	NU FMC (BUSY)
30	TB5OUT	TXD2	Out	Print data
31	TXD1	P67	Out	RS232 :SD
32	RXD1	P66	In	RS232 :RD
33	CLK1	/FRES	Out	NU FMC (/FRES)
34	CTS1/RTS1	P64	Out	RS232 :RS
35	TXD0	FSD	Out	FMC :Send data
36	RXD0	FRD	In	FMC :Receive data
37	CLK0	FSCK	Out	FMC :Shift clock
38	/RTS0	DR1	Out	Drawer drive 1
39	CLKOUT	/RDY	In	/RDY (CGROM)
40	ALE	NC	Out	NOT USE
41	/HOLD	/HOLD	In	/BOOT MODE
42	/HLDA	NC	Out	NOT USE
43	CBCLK	BCLK	Out	BCLK
44	/RD	/RD	Out	Read
45	/BHE	NC	Out	NOT USE
46	/WR	/WR	Out	Write
47	/CS3	CS3	Out	Display segment latch
48	/CS2	/CS2	Out	Chip select :for RAM
49	/CS1	/CS1	Out	EPM Control
50	/CS0	/CS0	Out	Chip select :for ROM
51	A19	A19	Out	Address bus :19
52	A18	A18	Out	Address bus :18

Pin No.	SYMBOL	SIGNAL NAME	In/ Out	Function
53	A17	A17	Out	Address bus :17
54	A16	A16	Out	Address bus :16
55	A15	A15	Out	Address bus :15
56	A14	A14	Out	Address bus :14
57	A13	A13	Out	Address bus :13
58	A12	A12	Out	Address bus :12
59	A11	A11	Out	Address bus :11
60	A10	A10	Out	Address bus :10
61	A9	A9	Out	Address bus :9
62	VCC	VDD	In	VDD
63	A8	A8	Out	Address bus :8
64	VSS	VSS	In	VSS
65	A7	A7	Out	Address bus :7
66	A6	A6	Out	Address bus :6
67	A5	A5	Out	Address bus :5
68	A4	A4	Out	Address bus :4
69	A3	A3	Out	Address bus :3
70	A2	A2	Out	Address bus :2
71	A1	A1	Out	Address bus :1
72	A0	A0	Out	Address bus :0
73	P17	ENA2	Out	Paper feed motor :ENA2
74	P16	ENA1	Out	Paper feed motor :ENA1
75	P15	IN2	Out	Paper feed motor :IN2
76	P14	IN1	Out	Paper feed motor :IN1
77	P13	P13	Out	Key/Display
78	P12	P12	Out	Key/Display
79	P11	P11	Out	Key/Display
80	P10	P10	Out	Key/Display
81	D7	D7	InOut	Data bus :7
82	D6	D6	InOut	Data bus :6
83	D5	D5	InOut	Data bus :5
84	D4	D4	InOut	Data bus :4
85	D3	D3	InOut	Data bus :3
86	D2	D2	InOut	Data bus :2
87	D1	D1	InOut	Data bus :1
88	D0	D0	InOut	Data bus :0
89	AN7	STB1	Out	Printer head strobe
90	AN6	LATCH	Out	Printer data latch
91	AN5	P105	Out	Printer head voltage ON
92	AN4	P104	Out	CG ROM Bank
93	AN3	P103	In	VBAT
94	AN2	Vref	In	NU Vret
95	AN1	P101	In	Printer head voltage check
96	AVSS	VSS	In	VSS
97	AN0	TH	In	Print head temperature check
98	VREF	VDD	In	VDD
99	AVCC	VDD	In	VDD
100	SIN4	P97	In	Key IN

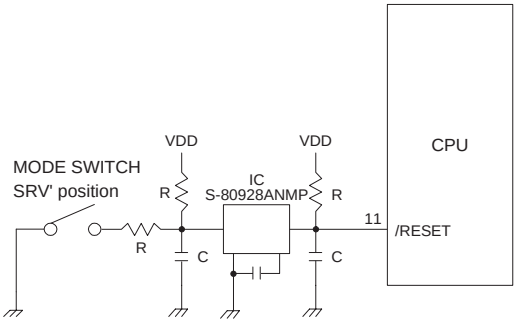
3. CLOCK GENERATOR

1) CPU



Two oscillators are connected to the CPU.
The basic clock X2 is supplied from a 12MHz oscillator.
If the CPU was not operating properly, the signal does not appear on this line in most cases.
The sub-clock X1 generates 32.768KHz which is primarily used to update the internal RTC (real time clock).
During the standby mode, it keeps oscillating to update the clock and monitoring the power recovery.

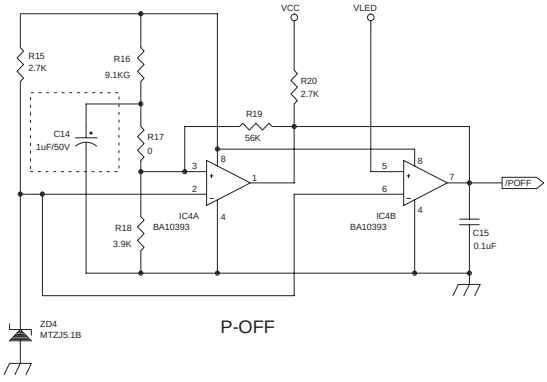
4. RESET CIRCUIT



(1) When the mode switch is placed in the “SRV” position, the reset signal is sent to the CPU to reset the hardware.

(2) When VDD ≦ 2.8V, a reset signal is outputted from the reset IC. (S-80928ANMP)

5. P-OFF CIRCUIT



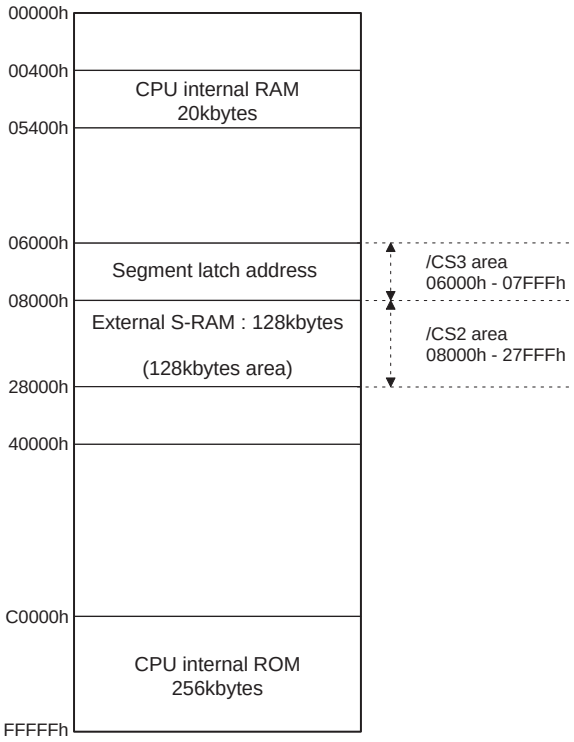
The P-OFF signal detects two signals by two comparators and sent to the CPU.

V0 (24V) signal: If the power voltage V0 (24V) falls bellow the specified level, the P-OFF signal is driver to LOW by the comparator ICAA.

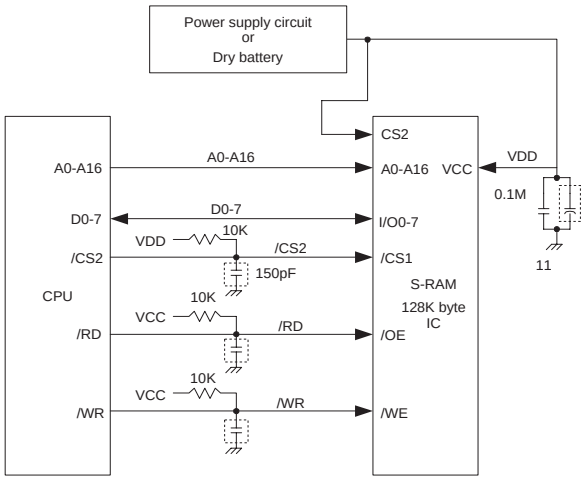
VLED signal: If the LED/Logic power voltage VLED falls below the specified level, the P-OFF signal is driven to LOW by the comparator IC4B.

6. MEMORY CIRCUIT

1) Address map

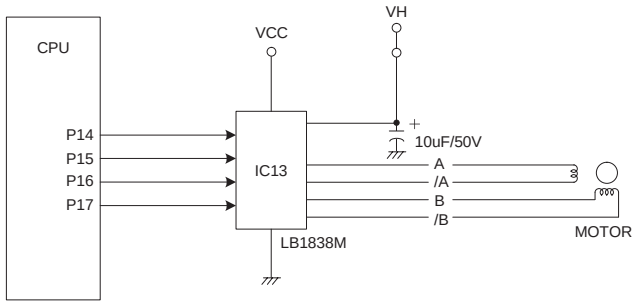


2) RAM control



7. PRINTER CONTROL CIRCUIT

1) Paper feed motor circuit



Stepping motor control

The 2-phase, bi-polar stepping motor is driven at a constant voltage by LB1838M (made by SANYO).

1 step: 0.087mm

1 dot: 2 steps

CPU port

No.	CPU port	Signal used
76	P14	IN1
75	P15	IN2
74	P16	ENA1
73	P17	ENA2

Drive step

	Driver IC input (CPU output)				Motor drive signal			
STEP	IN1	IN2	ENA1	ENA2	A (OUT1)	B (OUT3)	/A (OUT2)	/B (OUT4)
1	L	L	H	H	H	H	L	L
2	H	L	H	H	L	H	H	L
3	H	H	H	H	L	L	H	H
4	L	H	H	H	H	L	L	H

2) Print circuit

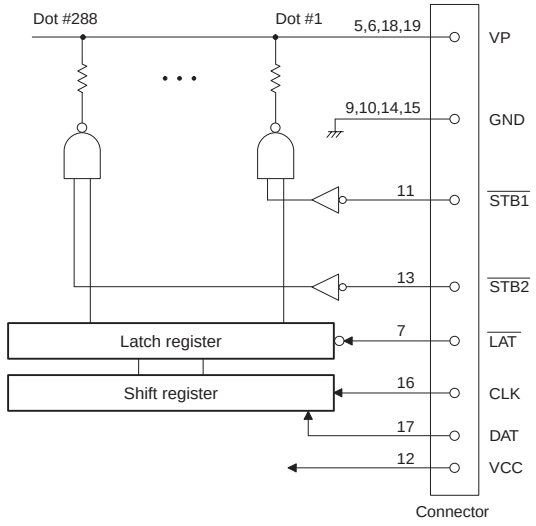
Thermal head configuration

As shown in the equivalent circuit in the figure, thermal head consists of heating elements and head drivers which drives and controls those heating elements.

The serial print data input through the DATA IN (D1) is transferred to the shift register synchronizing with the CLOCK (CP) and stored in the latch register by the LATCH (LA) signal.

The head conduction signals (print commands 1 ~ 6) turn the gate on to conduct the heating element corresponding to the print data.

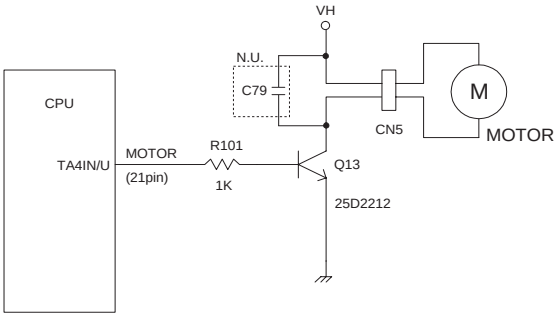
Thermal head block daigram



Thermal head strobe terminals

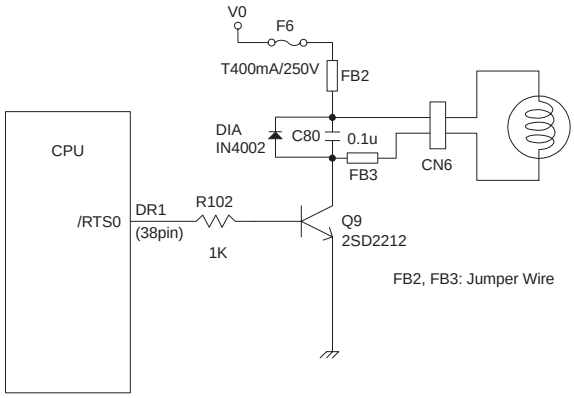
STB No.	Dot No.	Number of dots
1	1 ~ 144	144
2	145 ~ 288	144

8. PAPER TAKE UP MOTOR DRIVE CIRCUIT



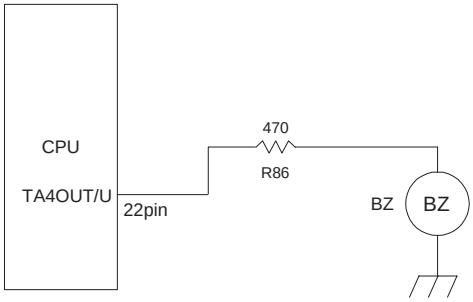
When the MOTOR signal from the CPU is HIGH, Q1 is turned on to operate the motor.

9. DRAWER DRIVE CIRCUIT



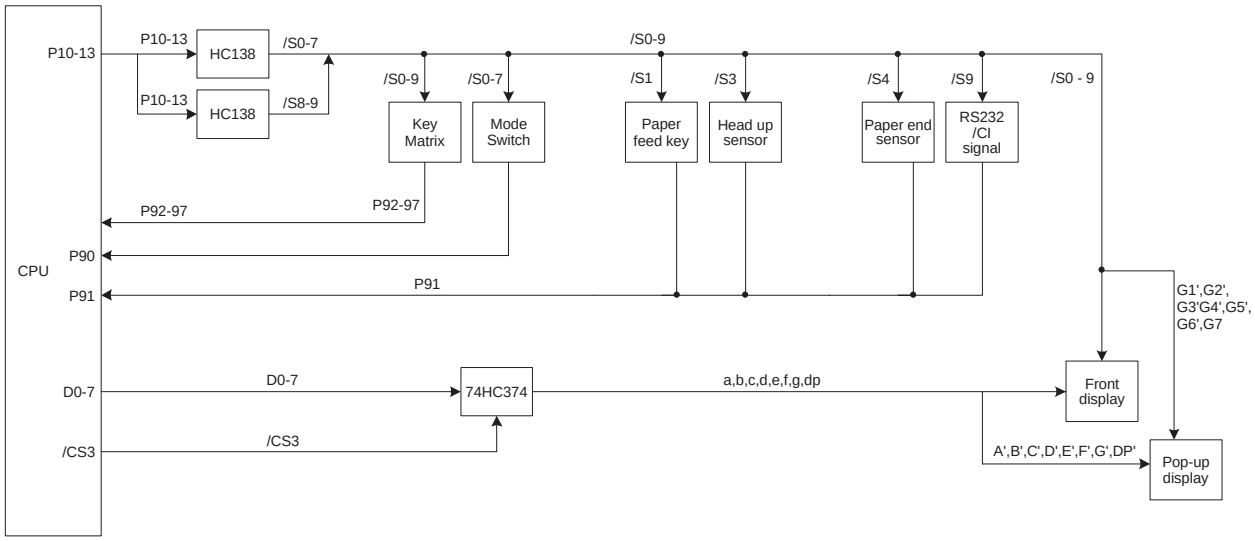
When the DR1 signal from the CPU is HIGH, Q9 is turned on to operate the solenoid.

10. BUZZER DRIVE CIRCUIT



When the pulse signal (about 4KHz) is generated from the CPU, the buzzer sounds.

11. KEYBOARD CIRCUIT



Four P10-13 signals from the CPU are converted into 16 strobe signals by two 74HC138 for use in various functions.

1) Keyboard

Scan signal: 10 /S0-9 signals

Return signal: 6 P92-97 signals

The keys are read by the key matrix following the above signals.

2) Mode switch

Scan signal: 8 /S0-7 signals

Return signal: 1 P90 signal

The positions are read by the above signals.

Scan signal	/S0	/S1	/S2	/S3	/S4	/S5	/S6	/S7
Mode switch position	(SRV)	PGM	∞	OPX/Z	REG	MGR	X1/Z1	X2/Z2

3) Paper feed key

Scan signal: 1 /S1 signal

Return signal: 1 P91 signal

The paper feed key is read by the above signals.

4) Head up sensor

Scan signal: 1 /S3 signal

Return signal: 1 P91 signal

The Head up sensor state is read by the above signals.

Head up sensor	Head up detected	Head up not detected
P91	Low	High

5) Paper end sensor

Scan signal: 1 /S4 signal

Return signal: 1 P91 signal

The paper end sensor state is read by the above signals.

Receipt near end sensor	End detected	End not detected
P91	Low	High

6) RS232/CI signal detection

Scan signal: 1 /S9 signal

Return signal: 1 P91 signal

The RS232/CI signal is detected by the above signals.

RS232 /CI signal	/CI signal detected	/CI signal not detected
P91	Low	High

7) Display

Scan signal: 10 /S0-9 signals

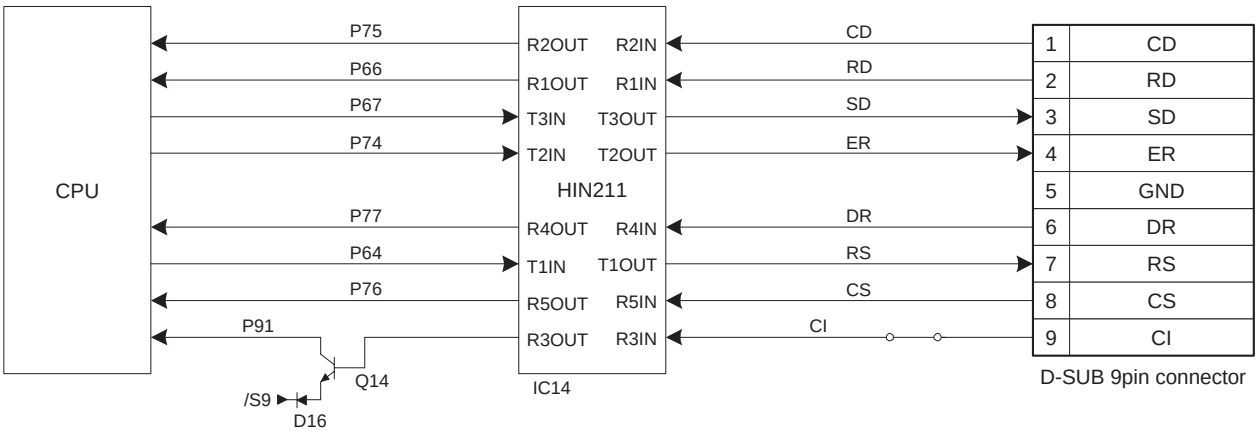
The above 10 scan signals are used as the following digit signals.

Digit signal:

Scan signal	/S0	/S1	/S2	/S3	/S4	/S5	/S6	/S7	/S8	/S9
Digit signal: Front	G1'	G2'	G3'	G4'	G5'	G6'	G7'	G8'	G9'	G10'
Digit signal: Pop-up	G1'	G2'	G3'	G4'	G5'	G6'	G7'			

Segment signal : Segment signals: a, b, c, d, e, f, g, and DP are output by the IC:74HC374, using the data bus signal:D0-7 from the CPU as an input signal and the chip select signal:/CS3 as a latch signal.

12. RS232 CIRCUIT



The signals from the CPU are converted by the HIN211 into the RS232 level to input and output them.

CHAPTER 5. TEST FUNCTION

1. TEST ITEMS

The test items are as follows:

NO.	Code	Description
1	100	Display buzzer test
2	101	Key code
3	102	Printer test
4	104	Keyboard test
5	105	mode switch test
6	106	Printer sensor test
7	107	Clock display test
8	110	Drawer 1 open & sensor test
9	120	External RAM test
10	121	CPU internal RAM test
11	140	CPU internal ROM test
12	160	AD conversion port test
13	500	RS232C test
14	550	Sleep mode test

2. DESCRIPTION OF EACH DIAGNOSTIC PROGRAM

1) DISPLAY BUZZER TEST

① Key operation

100 ⟶ RCPT/PO

② Test procedure

Display at operator side 1.2.3.4.5.6.7.8.9.0.
Display at front side 4.5.6.7.8.9.0.

The decimal point will shift in steps of 1 digit from the lower digit to the upper (every 200 m sec).

After that, all segments turn on (about 1 sec)

Display at operator side 8.8.8.8.8.8.8.8.8.8.
Display at front side 8.8.8.8.8.8.8.

This mode is repeated.
At the same time, the buzzer sounds continuously.

③ Check that:

A) Each position is correctly displayed.

B) The brightness of each number is uniform.

C) The buzzer sound is normal.

④ End of testing

You can exit the test mode by pressing any key. The following is printed.

1 0 0

2) KEY CODE

① Key operation

101 ⟶ RCPT/PO

② Test procedure

Display ◯ ◯ ◯
KEY CODE

③ Check that:

KEY code: Every time a key is pressed, the code of that key is displayed as a decimal number.

When a key is pressed twice or pressed in an incorrect manner, --- will be displayed.

④ End of testing

You can exit the test mode by turning the mode switch to a position other than the SRV mode. The printer prints as follows:

1 0 1

3) PRINTER TEST

① Key operation

102 ⟶ RCPT/PO

② Test procedure

Display 1 2 3 4 5 6 7 8 9 0

```
ZZZZZZ  ----------ZZZZZ
ZZZZZZ  ----------ZZZZZ
ZZZZZZ  ----------ZZZZZ
```

3 lines of 24 Z's are printed.

③ Check that:

The print is free from contamination, blur, and uneven density.

④ End of testing

The test will end automatically.

4) KEYBOARD TEST

① Key operation

104 ⟶ RCPT/PO

② Test procedure

The keyboard is checked using the sumcheck data of the key code.

Display 1 0 4 ◯ ◯ ◯
KEY CODE

③ Check:

A) The content of completion print

④ End of testing

When the test ends normally 104
When an error occurs E- ~ - 104

Note: Calculation of key sumcheck data
The hard code (hexadecimal number) at the position (excluding feed key) where there is an input data contact is added.
However, the end key (CA/AT/NS) is not added.
This data to which hard codes have been added is converted into a decimal number value, which will become the sumcheck data that will be entered when the Diag is started.

5) MODE SWITCH TEST

① Key operation

105 → RCPT/PO

② Test procedure

Display 1 0 5 X

MODE: _PGM_ ∞ _ ⏻ _OP X/Z_REG_MGR_X1/Z1_X2/Z2____PGM
x : 1 2 9 3 4 5 6 7 1

The above x must be read in the correct order. (If the contact is open, 9 will be displayed.)

③ Check:

The display during testing and the content of the completion print.

④ End of testing

When the test ends normally: 105
When an error occurs: E- ~ - 105

6) PRINTER SENSOR TEST

① Key operation

106 → RCPT/PO

② Test procedure

Check the status of paper end sensor and head up sensor.

7-segment display: 1 0 6 X Y

③ Check the following:

X:1 - Paper present Y:1 - Head DOWN
O - Out of paper O - Head UP

④ End of testing

You can exit the test mode by pressing any key and the printer prints the following:

1 0 6

7) CLOCK TEST

① Key operation

107 → RCPT/PO

② Test procedure

Displayed digit: 8 7 6 5 4 3 2 1

7-segment display: ∗ ∗ – ∗ ∗ ∗ ∗

hour min sec

Blinks at an interval of 0.5 sec.

③ Check that:

"-" blinks and the clock counts up.

④ End of testing

When any key is pressed, the date and time are printed and the test mode will terminated.

Display 1 0 6 XXXXXX - XXXXXX

year month day hour min sec

8) DRAWER 1 OPEN AND SENSOR TEST

① Key operation

110 → RCPT/PO

② Test procedure

Display 1 1 0 X

X: O = DRAWER OPEN
C = DRAWER CLOSED

③ Check that:

A) The drawer opens normally.

B) The sensor correctly indicates the status of the drawer 1.

∗On the XE-A202, "C" (CLOSED) is always displayed.

④ End of testing

You can exit the test mode by pressing any key. The printer prints the following.

1 1 0

9) EXTERNAL RAM TEST

① Key operation

120 → RCPT/PO

② Test procedure

The standard 128 Kbyte RAM is checked.
The contents of the memory are lost after this test.
RAM(08000H ~ 27FFFH area) is tested in the following procedure:

a) Data in the test area is stored.

b) Write "00H"

c) Read and compare "00H" and then write"55H"

d) Read and compare "55H" and then write"AAH"

e) Read and compare "AAH"

f) Restore stored data.

If an error occurs at a step, the error is printed.
If an error does not occur, the following addresses are checked.

Addresses to be checked:
10000H , 10001H , 10002H , 10004H , 10008H
10010H , 10020H , 10040H , 10080H ,
10100H , 10200H , 10400H , 10800H ,
11000H , 12000H , 14000H , 18000H ,
20000H

Display 1 2 0

③ Check:

A) The completion print.

④ End of testing

The program ends after printing.

When the test ends normally. 120
When the test ends abnormally. Ex- ~ - 120
*****
x = 1: Data error
x = 2: Address error

When an error occurs, the printer outputs the error message and then the address where the error has occurred in the area ****.

10) CPU internal RAM test

① Key operation

121 ⟶ RCPT/PO

② Test procedure

The test program checks internal RAM of the CPU.
The contents of the memory are lost after this test.
RAM (00400H - 053FFH area) is tested in the following procedure.

a) Data in the test area is stored.
b) Write “00H”
c) Read and compare “00H” and then write “55H”
d) Read and compare “55H” and then read “AAH”
e) Read and compare “AAH”
f) Stored data is restored.

If an error occurs at a step, the error is printed.
If an error does not occur, the following addresses are checked.
Addresses to be checked:

01000H , 01001H , 01002H , 01004H , 01008H
01010H , 01020H , 01040H , 01080H ,
01100H , 01200H , 01400H , 01800H ,
02000H , 04000H

Display 1 2 1

③ Check:

The completion print.

④ End of testing.

The test program ends after printing.

When the test ends normally. 121
When the test ends abnormally. Ex- ~ - 121
*****
x = 1: Data error
x = 2: Address error

If an error occurs, the printer outputs the error message and then the address where the error has occurred in the area ****.

11) CPU internal ROM test

① Key operation

140 ⟶ RCPT/PO

② Test procedure

The test program checks that the checksum of the CPU internal flash ROM (C0000H - FFFFFH) is correct.
The lower two digits of the checksum should be 10H.(pending)

Display 1 4 0

③ Check:

The completion print.

④ End of testing

The test will automatically be terminated and the printer prints as follows:

When the test ends normally. 140
ROM ******** (CPU CODE)
******** (Version)
When the test ends abnormally. E- ~ - 140
ROM ******** (CPU CODE)
******** (Version)

12) AD conversion port

① Key operation

160 ⟶ RCPT/PO

② Test procedure

The test program displays the voltage of each AD port.

1. Head temperature 1 6 0 1 XXX
2. Head voltage 1 6 0 2 XXX
3. Battery voltage 1 6 0 3 XXXX

③ End of testing

You can exit the test mode by pressing any key.
The printer prints the follwing.

1 6 0

13) RS232C test

Install the RS232C loopback connector. (UKOG-6705RCZZ)

① Key operation

500 ⟶ RCPT/PO

② Test procedure

Control signal check

OUT PUT		IN PUT			
/ER	/RS	/DR	/CI	/CD	/CS
OFF	OFF	OFF	OFF	OFF	OFF
OFF	ON	OFF	OFF	ON	ON
ON	OFF	ON	ON	OFF	OFF
ON	ON	ON	ON	ON	ON

Data communication check
A loopback test of 256-byte data between SD-RD is performed.
DATA: $00 - $FF BAUD RATE: 9600 BPS

7-segment display: 5 0 0

③ Check:

The completion print.

④ End of testing

Completion print RS TEST OK
Error print RS TEST **NG**ERxx

xx	Contents of the error	
01	ER DR error	
02	ER CI error	
03	RS CD error	
04	RS CS error	
05	SD RD error	DATA data
06	SD RD error	DATA error/framing error

14) Sleep mode test

① Key operation

550 ⟶ RCPT/PO

② Test procedure

The test program checks the system in SLEEP MODE (The display goes off and the Decimal point comes on) and then waits for any status change (KEY input or RS PORT change).

③ Check that:

A) The display goes off (excluding Decimal point)

B) The system turns active when any key is pressed.

④ End of testing

The test program will automatically be terminated and the printer prints the following.

5 5 0

CHAPTER 6. IPL (INITIAL PROGRAM LOADING) FUNCTION

The application program of the XE-A202 is written into the Flash ROM in the CPU.

Since the CPU supplied as a service part does not include the application program in it, the application program must be written when the CPU is replaced with a new one.

To write the application program into the Flash ROM, connect the PC and the XE-A202 with an RS-232C cable, and execute the PC software.

∗Use a D-Sub 9pin cross cable employed in conventional communication between ECR-ECR (See APPENDIX: RS232C CABLE).

[Related parts/Tool]

PARTS NAME	PARTS CODE	LOCATION No.
CPU (without application program)	VHi30624FGA−1	IC5
PosUtilityTool3	Software	

[IPL PROCEDURE]

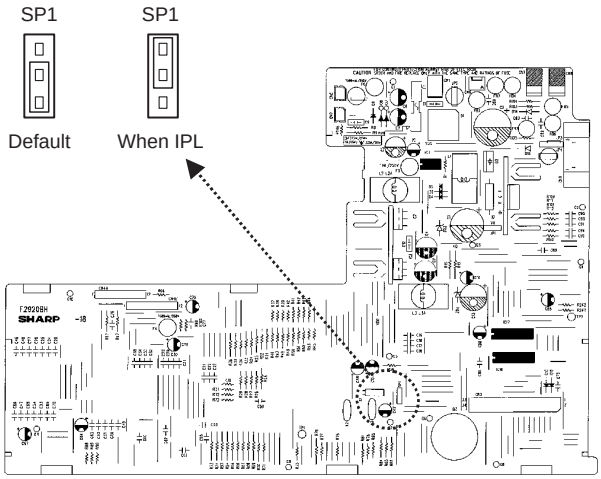
1) Connect the XE-A202 and PC with an RS-232C cable.

<XE-A202 side>

2) Turn off the AC Power. (& remove batteries.)

3) Open the cabinet.

4) Change the IPL JUMPER PIN (SP1) to the rear side.



<Main PWB>

5) Close the cabinet.

6) Turn on the AC Power.
(At this time, ECR looks like inactive, but ECR waits the ROM data from PC.)

<IPL software on PC>

7) Copy the following files in "PosUtilityTool3" into the hard disk of PC.

Postool3.exe

A202v.ROM

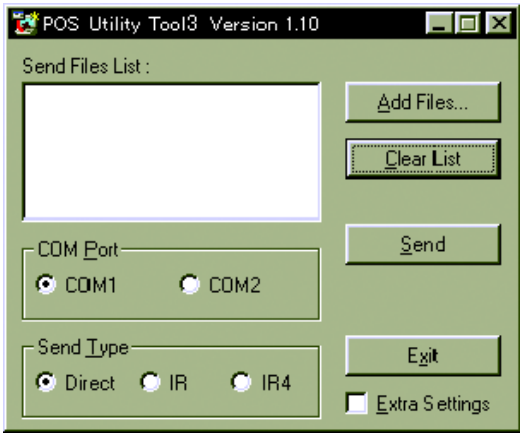
8) Boot "Postool3.exe."

9) Push [Add Files] in the screen.

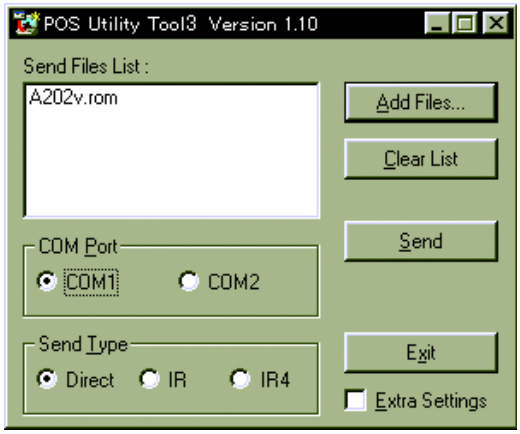
10) Select the ROM DATA file. (File name: A202V.ROM)

11) By pushing [Send] in the screen, the ROM data is sent from PC to ECR.
The address counter is shown on PC and counts up.

12) After about 3-minuites, the message "Complete" is shown on PC.



<After booting>



<After pushing "Add Files">

∗1 COM Port is selectable between COM1 and 2.

∗2 For "Send Type", select "Direct".

∗3 Do not select "Extra Setting".

<XE-A202 side>

12) Turn on the AC Power.

13) Open the cabinet.

14) Change the Jumper PIN (SP1) to the front side. (default position)

15) Close the cabinet.

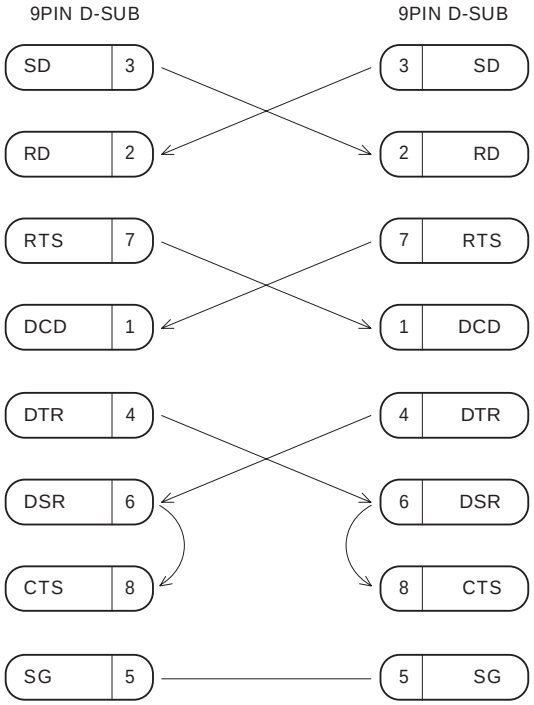
16) Turn on the AC Power.

Master Reset will be performed. If not, power off the XE-A202, wait 1miniute and turn on the power again.

APPENDIX: RS232C CABLE

The RS-232C cable has the following internal connections:

(Equivalent to a cross cable used in the conventional connection of ECR-ECR)

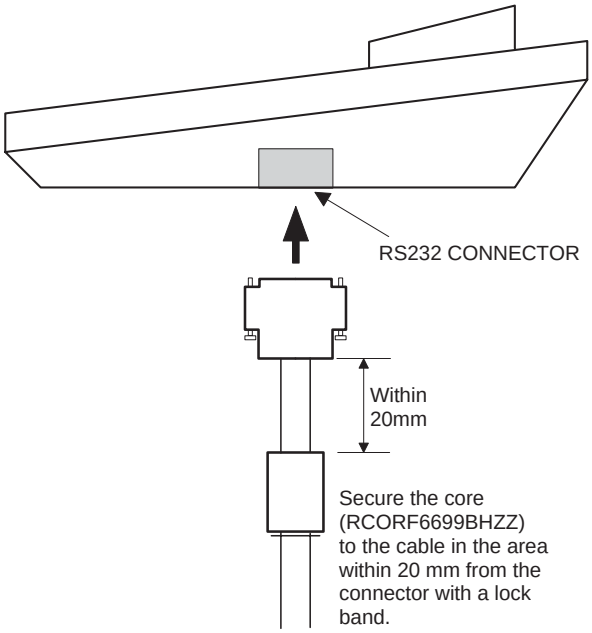


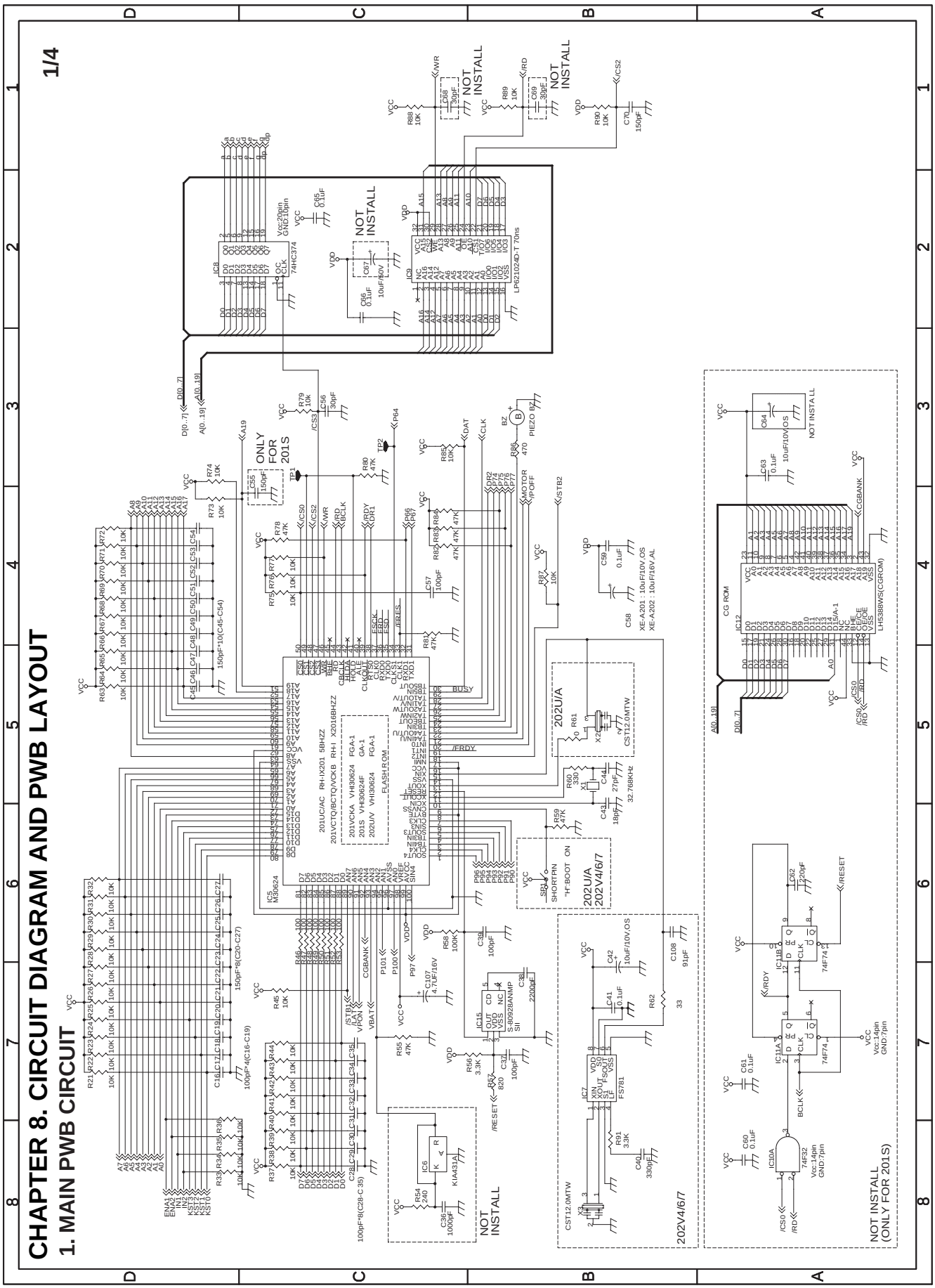
SD : TRANSMITTED DATA
RD : RECEIVED DATA
DTR : DATA TERMINAL READY
DSR : DATA SET READY
RTS : REQUEST TO SEND
DCD : DATA CARRIER DETECTOR
CTS : CLEAR TO SEND

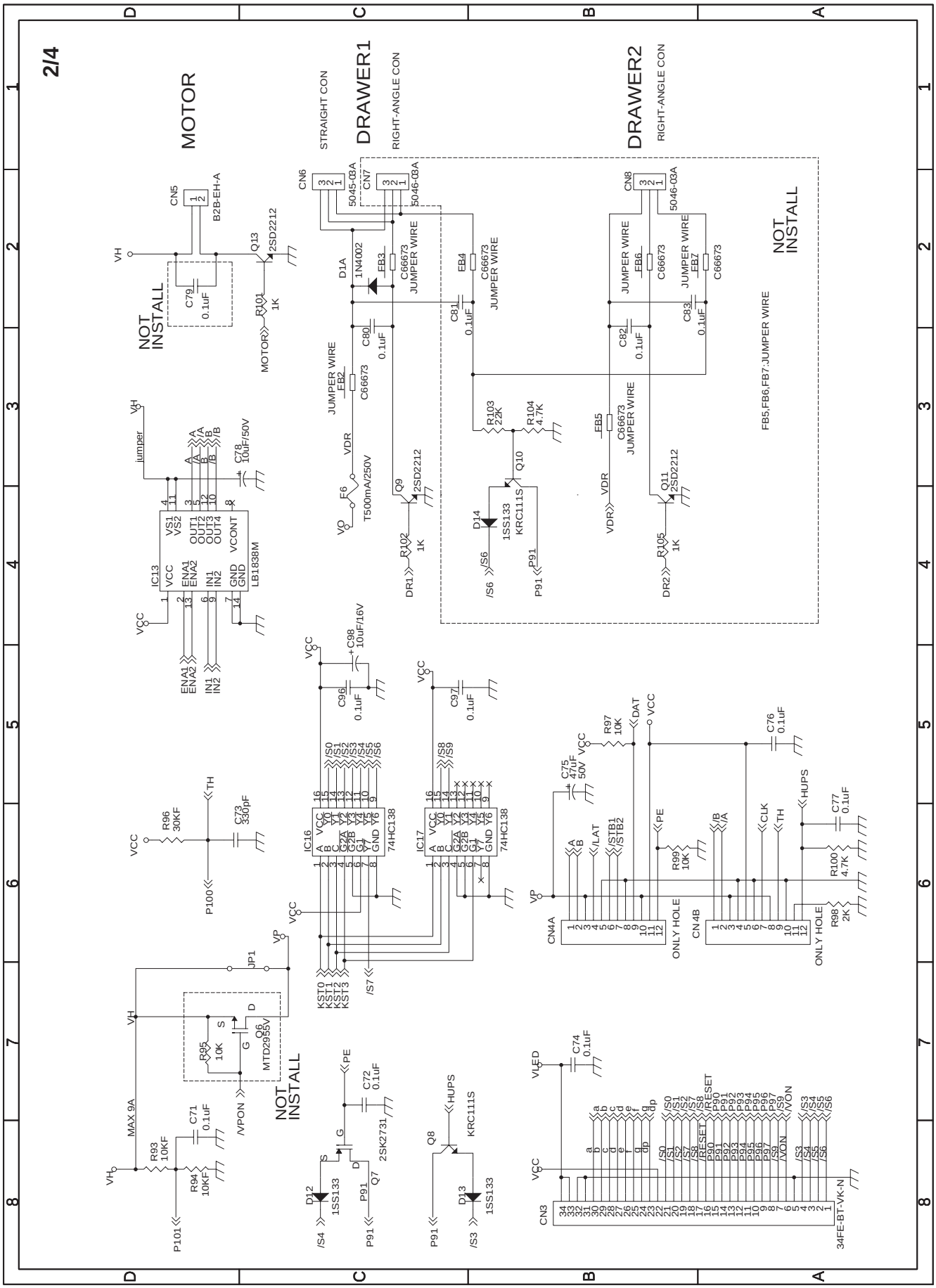
CHAPTER 7. CAUTION TO BE USED WHEN CONNECTING THE RS-232 CABLE

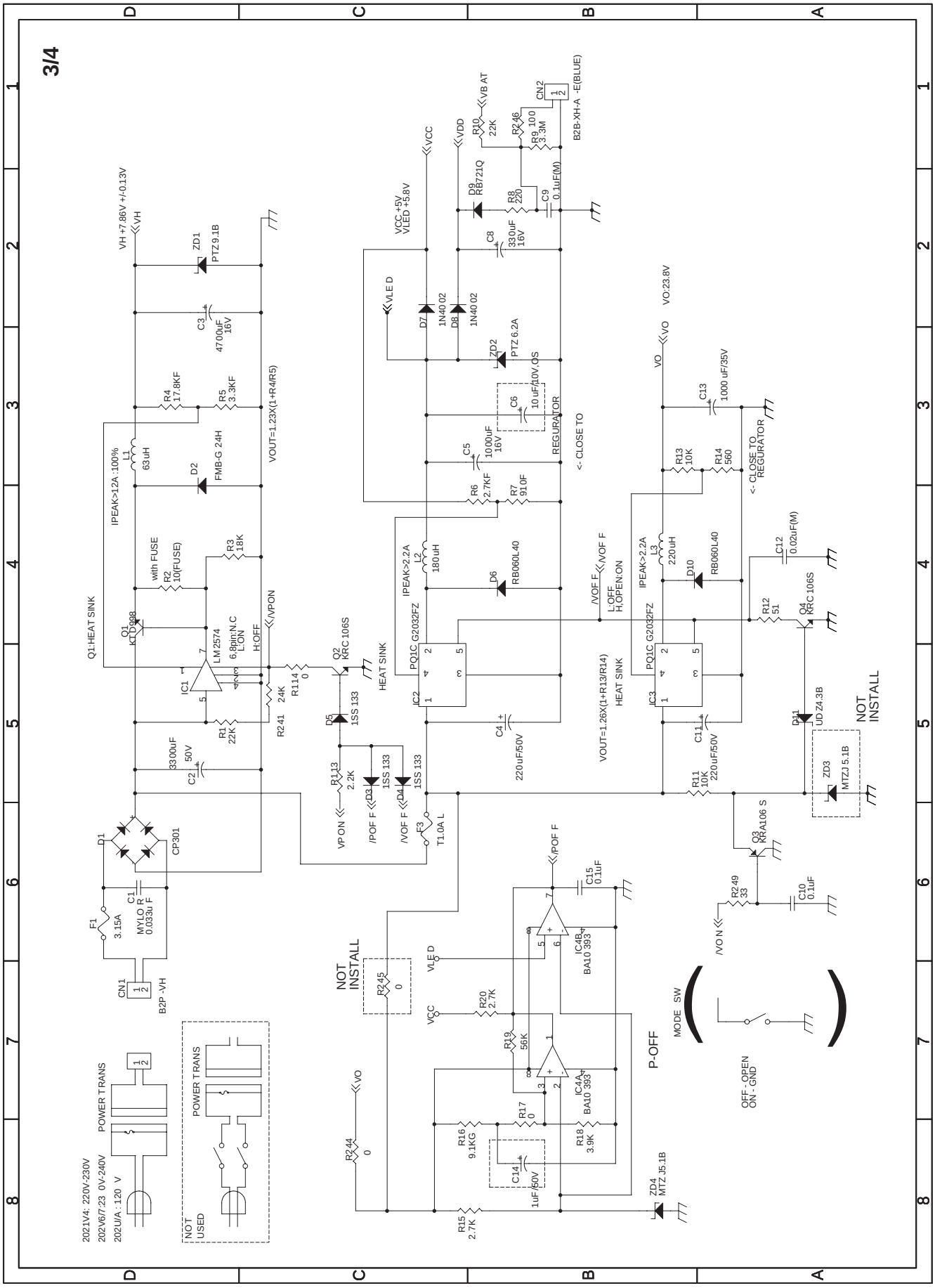
When connecting the RS-232 cable to the XE-A212, be sure to observe the following condiiton:

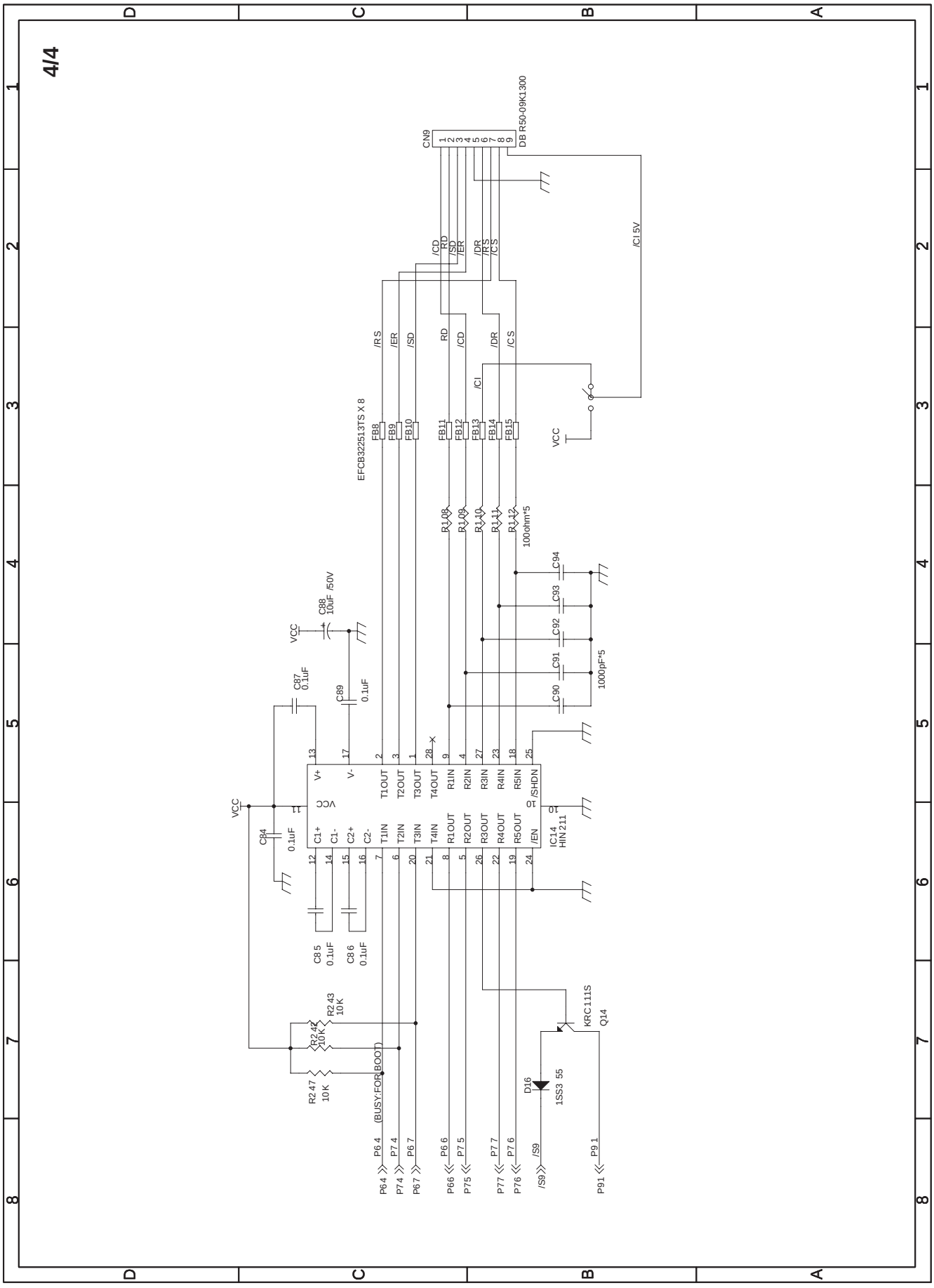
Secure the attached core (RCORF6699BHZZ) to the RS-232 cable in the area within 20mm from the connector.
[This is a necessary procedure to support the EMI (Electronics Magnetic Interface).]

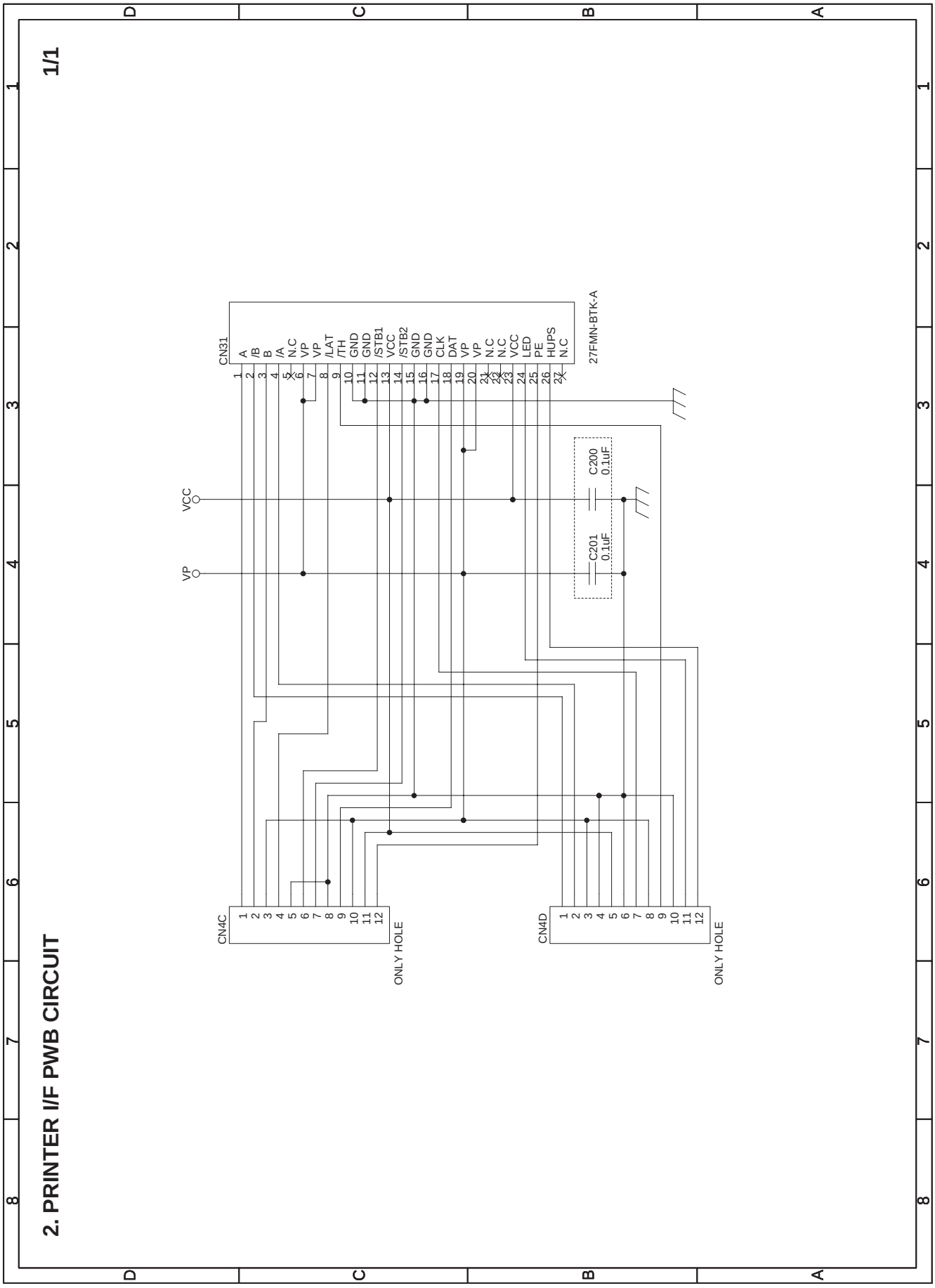



CHAPTER 8. CIRCUIT DIAGRAM AND PWB LAYOUT
1. MAIN PWB CIRCUIT
1/4
ONLY FOR 201S
NOT INSTALL
202U/A
202V4/6/7
NOT INSTALL (ONLY FOR 201S)
CG ROM
LH5388WS(CGROM)
LP62024D-T 70ns
74HC374
M30624
201UC/AC RH-IX201 58HZZ
201VCTQ/BCTQ/VCKCB RH-IX2016BHZZ
201VCKA VHI30624 FGA-1
2015 VHI30624F GA-1
202U/V VHI30624 FGA-1
FLASH ROM
XE-A201 : 10uF/10V,OS
XE-A202 : 10uF/16V,AL
"H":BOOT ON
SHORT:PIN
CST12.0MTW
32.768KHz
PIEZO BZ


2/4
MOTOR
DRAWER1
DRAWER2
STRAIGHT CON
RIGHT-ANGLE CON
RIGHT-ANGLE CON
NOT INSTALL
NOT INSTALL
NOT INSTALL
FB5,FB6,FB7:JUMPER WIRE
ONLY HOLE
ONLY HOLE
CN5
B2B-EH-A
CN6
5045-03A
CN7
5046-03A
CN8
5046-03A
Q13
2SD2212
Q9
2SD2212
Q10
Q11
2SD2212
D1A
1N4002
D14
1SS133
KRC111S
D12
1SS133
D13
1SS133
Q8
KRC111S
Q7
2SK2731
Q6
MTD2955V
IC13
LB1838M
IC16
74HC138
IC17
74HC138
CN4A
CN4B
CN3
34FE-BT-VK-N
JP1
F6
T500mA/250V
JUMPER WIRE
C66673
C79
0.1uF
C71
0.1uF
C72
0.1uF
C73
330pF
C74
0.1uF
C75
47uF
50V
C76
0.1uF
C77
0.1uF
C78
10uF/50V
C80
0.1uF
C81
0.1uF
C82
0.1uF
C83
0.1uF
C96
0.1uF
C97
0.1uF
C98
10uF/16V
R93
10KF
R94
10KF
R95
10K
R96
30KF
R97
10K
R98
2K
R99
10K
R100
4.7K
R101
1K
R102
1K
R103
22K
R104
4.7K
R105
1K
MAX 9A
VH
VCC
VP
VLED
VDR
TH
CLK
DAT
ILAT
PE
/VPON
/VON
/RESET
HUPS
/S0
/S1
/S2
/S3
/S4
/S5
/S6
/S7
/S8
/S9
P91
P100
P101
DR1
DR2
KST0
KST1
KST2
KST3


3/4
VH +7.86V +/-0.13V
VH
ZD1
PTZ9.1B
C3
4700uF
16V
R4
17.8KF
R5
3.3KF
VOUT=1.23X(1+R4/R5)
IPEAK>12A :100%
L1
63uH
D2
FMB-G 24H
with FUSE
R2
10(FUSE)
R3
18K
Q1:HEAT SINK
Q1
KTD998
IC1
LM2574
6.8pin:N.C
L:ON
H:OFF
/VPON
R1
22K
R241
24K
R114
0
Q2
KRC 106S
HEAT SINK
D5
1SS 133
C2
3300uF
50V
D1
CP301
F1
3.15A
C1
MYLO R
0.033u F
CN1
B2P -VH
POWER TRANS
NOT
USED
R113
2.2K
D3
1SS 133
D4
1SS 133
VP ON
/POF F
/VOF F
F3
T1.0A L
C4
220uF/50V
VCC +5V
VLED +5.8V
VCC
VDD
VB AT
R10
22K
R246
100
R9
3.3M
CN2
B2B-XH-A -E(BLUE)
D8
RB721Q
R8
220
C9
0.1uF(M)
C8
330uF
16V
VLE D
D7
1N4002
D8
1N4002
ZD2
PTZ 6.2A
C6
10uF/10V OS
REGURATOR
<- CLOSE TO
C5
1000uF
16V
R6
2.7KF
R7
910F
IPEAK>2.2A
L2
180uH
D6
RB060L40
PQ1C G2032FZ
IC2
/VOF F
L:OFF
H,OPEN:ON
VOUT=1.26X(1+R13/R14)
HEAT SINK
VO
VO:23.8V
C13
1000 uF/35V
R13
10K
R14
560
<- CLOSE TO
REGURATOR
IPEAK>2.2A
L3
220uH
D10
RB060L40
PQ1C G2032FZ
IC3
C12
0.02uF(M)
R12
51
Q4
KRC 106S
C11
220uF/50V
D11
UD Z4.3B
NOT
INSTALL
ZD3
MTZJ 5.1B
R11
10K
Q3
KRA106 S
R249
33
C10
0.1uF
/VO N
MODE SW
OFF - OPEN
ON - GND
P-OFF
/POF F
C15
0.1uF
IC4B
BA10 393
R245
0
NOT
INSTALL
VLE D
VCC
R20
2.7K
R19
56K
IC4A
BA10 393
VO
R244
0
R16
9.1KG
R17
0
R18
3.9K
C14
1uF/50V
R15
2.7K
ZD4
MTZ J5.1B
2021V4: 220V-230V
202V6/7:23 0V-240V
202U/A : 120 V
POWER TRANS
NOT
USED

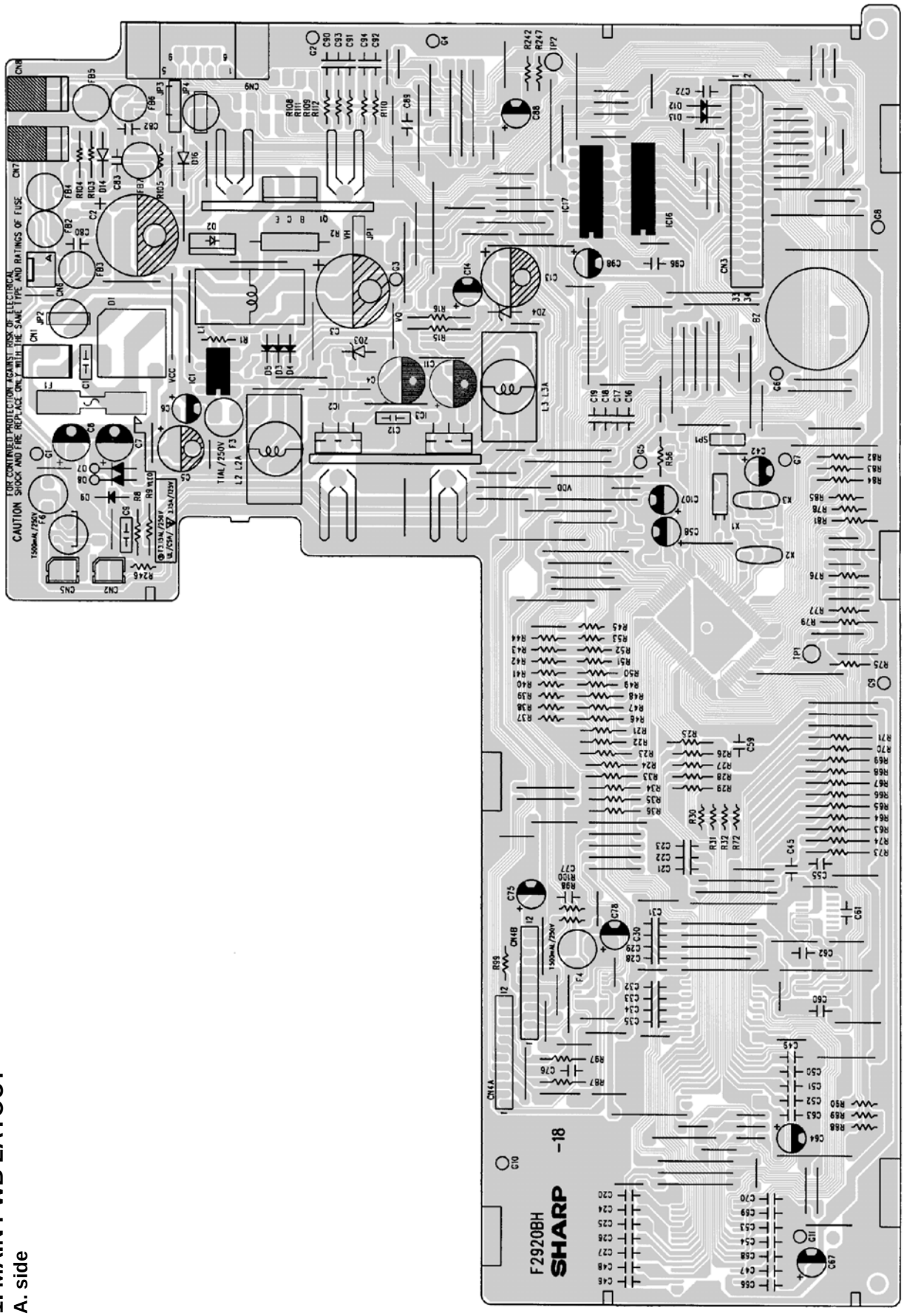

4/4
CN9
DB R50-09K1300
EFCB322513TS X 8
IC14 HIN211
KRC111S
Q14
D16
1SS3 55
100ohm*5
1000pF*5
(BUSY:FOR BOOT)
VCC
/CD
RD
/SD
/ER
/DR
/RS
/CS
/CI
/CI 5V
/RS
/ER
/SD
RD
/CD
/DR
/CS
C84 0.1uF
C85 0.1uF
C86 0.1uF
C87 0.1uF
C88 10uF /50V
C89 0.1uF
C90
C91
C92
C93
C94
R109
R110
R111
R112
FB8
FB9
FB10
FB11
FB12
FB13
FB14
FB15
R243 10K
R244 10K
R247 10K
P64
P74
P67
P66
P75
P77
P76
/S9
P91


2. PRINTER I/F PWB CIRCUIT
1/1
CN31
27FMN-BTK-A
A
/B
B
/A
N.C
VP
VP
/LAT
/TH
GND
GND
/STB1
VCC
/STB2
GND
GND
CLK
DAT
VP
VP
N.C
N.C
VCC
LED
PE
HUPS
N.C
VCC
VP
C200
0.1uF
C201
0.1uF
CN4C
CN4D
ONLY HOLE
ONLY HOLE

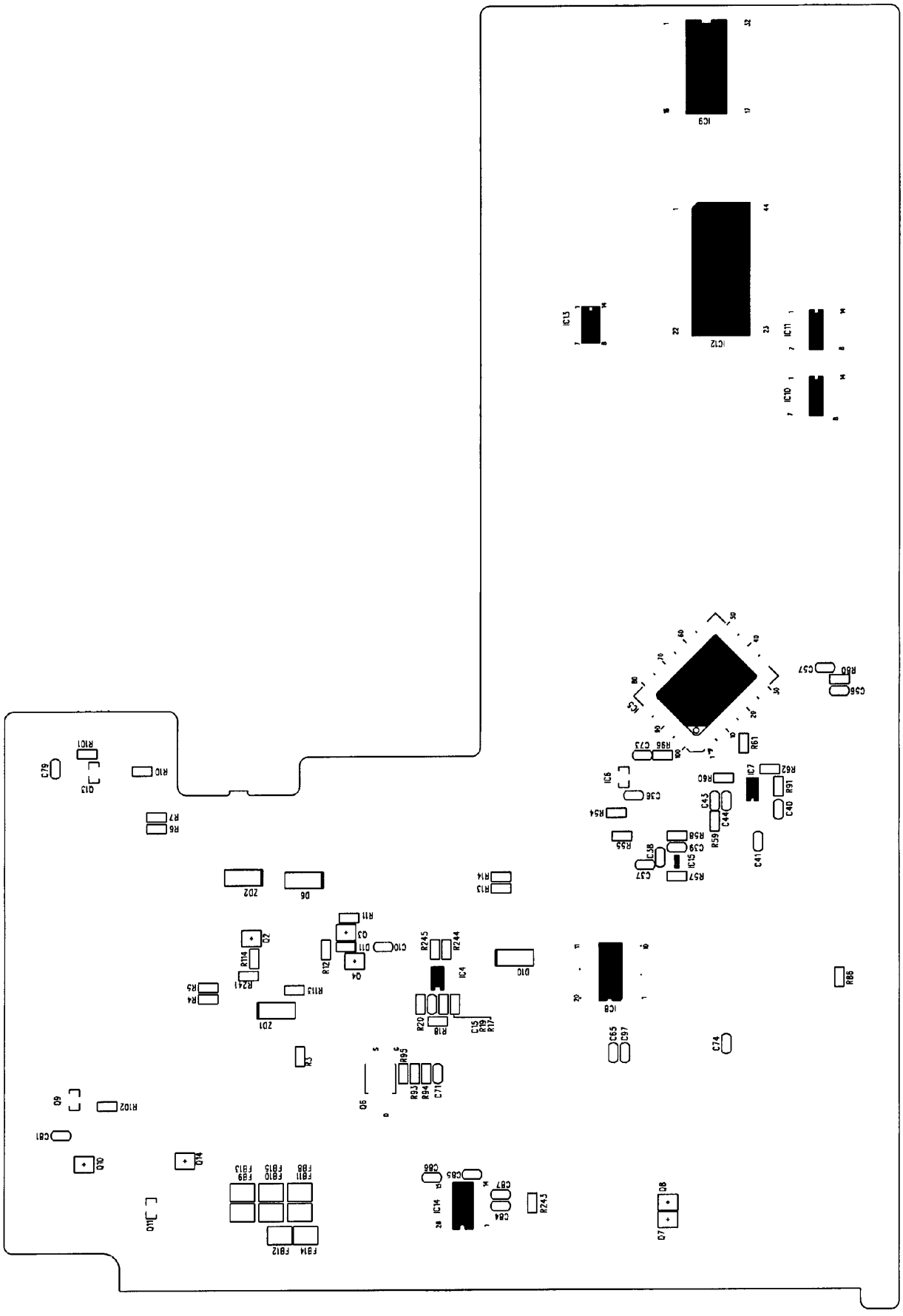
PWB LAYOUT

1. MAIN PWB LAYOUT

A. side

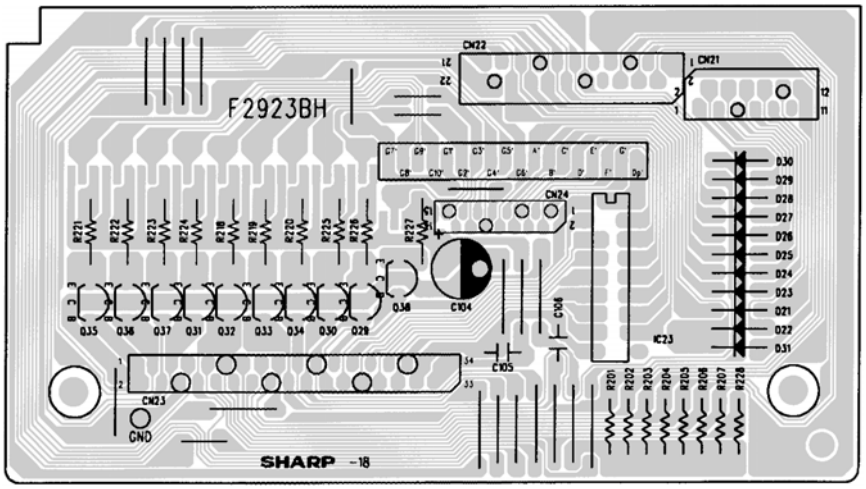

F2920BH
SHARP
-18
CAUTION FOR CONTINUED PROTECTION AGAINST RISK OF ELECTRICAL SHOCK AND FIRE REPLACE ONLY WITH THE SAME TYPE AND RATINGS OF FUSE

B. side

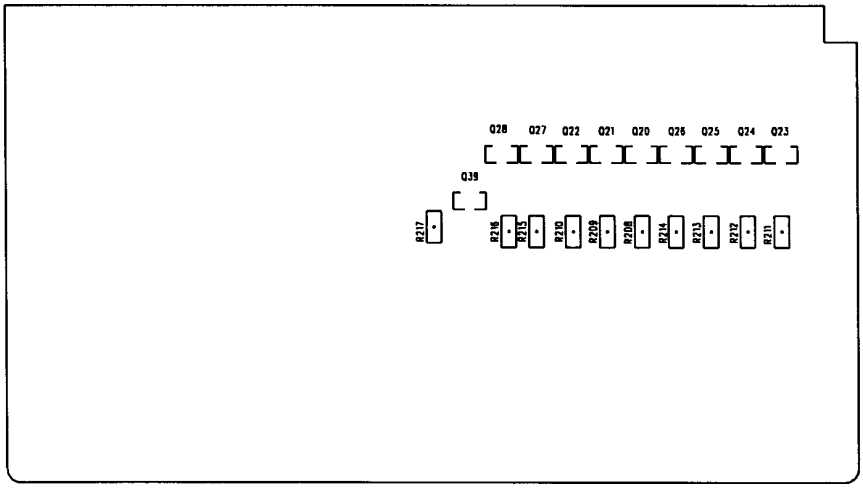


2. KEY INTERFACE PWB LAYOUT

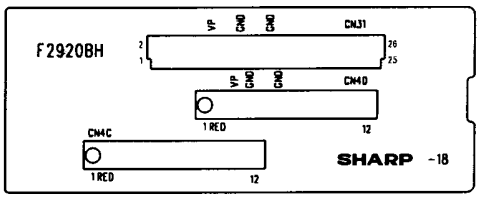
A. side



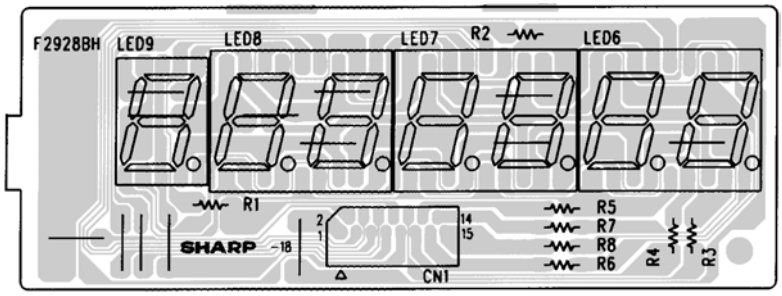
B. side



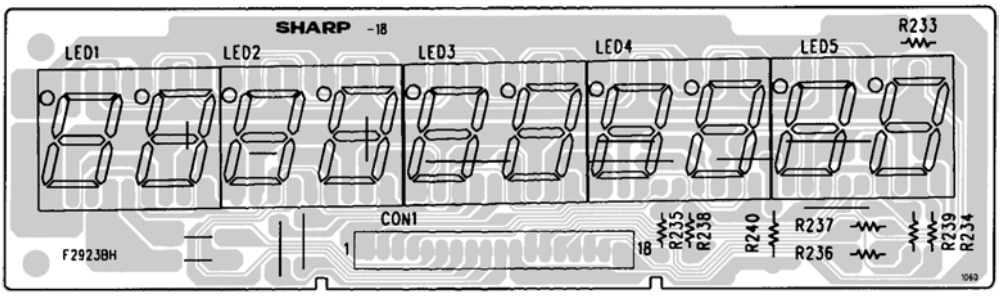
3. PRINTER I/F PWB LAYOUT



4. REAR DISPLAY PWB LAYOUT



5. DISPLAY PWB LAYOUT



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SHARP PARTS GUIDE

CODE : 00ZXEA202VPGE

MODEL XE-A202

PRINTER : M-53II
(for TQ,KB,KA)

CONTENTS

1 Exteriors
2 Keyboard unit
3 Packing material & Accessories
4 Drawer box unit (SJ-420type)
5 Main PWB unit
6 Display + Key PWB unit
7 Pop up PWB unitt
8 Articles for consumptiont
9 Special service tools

■ index

Parts marked with "⚠" are important for maintaining the safety of the set. be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

Table of distinations

SELECTION CODE	COUNTRIES
U	U.S.A., Guam
A	Canada
TS	Germany
TQ	SEEG territory other than Germany (Stamp:English)
TR	SEEG territory other than Germany (Stamp:English)
TM	SEEG(FRANCE:Metro-VM) (Stamp:French)
KB	U.Kingdom
KA	Australia

SELECTION CODE	COUNTRIES
K	Korea

SELECTION CODE	COUNTRIES
SB	Saudi Arabia (127V area)
SBA	Saudi Arabia (220V area)
SC	Taiwan
SD	Venezuela
SE	Hong Kong
SG	Lebanon, Syria, Greece, Pakistan, Iran, Egypt, Thailand, Iraq, Mauritius, Seychelles, Tahiti, Jordan, Sudan, Turkey
SH	South Africa (U.S.A. version)
SHE	South Africa (Europe version)
SJ	Philippines (Europe version)
SJ2	Philippines (U.S.A. version)
SM	Kuwait, Qatar, Oman, UAE, Malta, Bahrain
SMT	Nigeria, Yemen, Kenya

SELECTION CODE	COUNTRIES
RA1	Morocco, Algeria, Tunisia, West Africa
RA2	Chile, Uruguay, Peru, Argentina, Paraguay
RA5	Sri Lanka

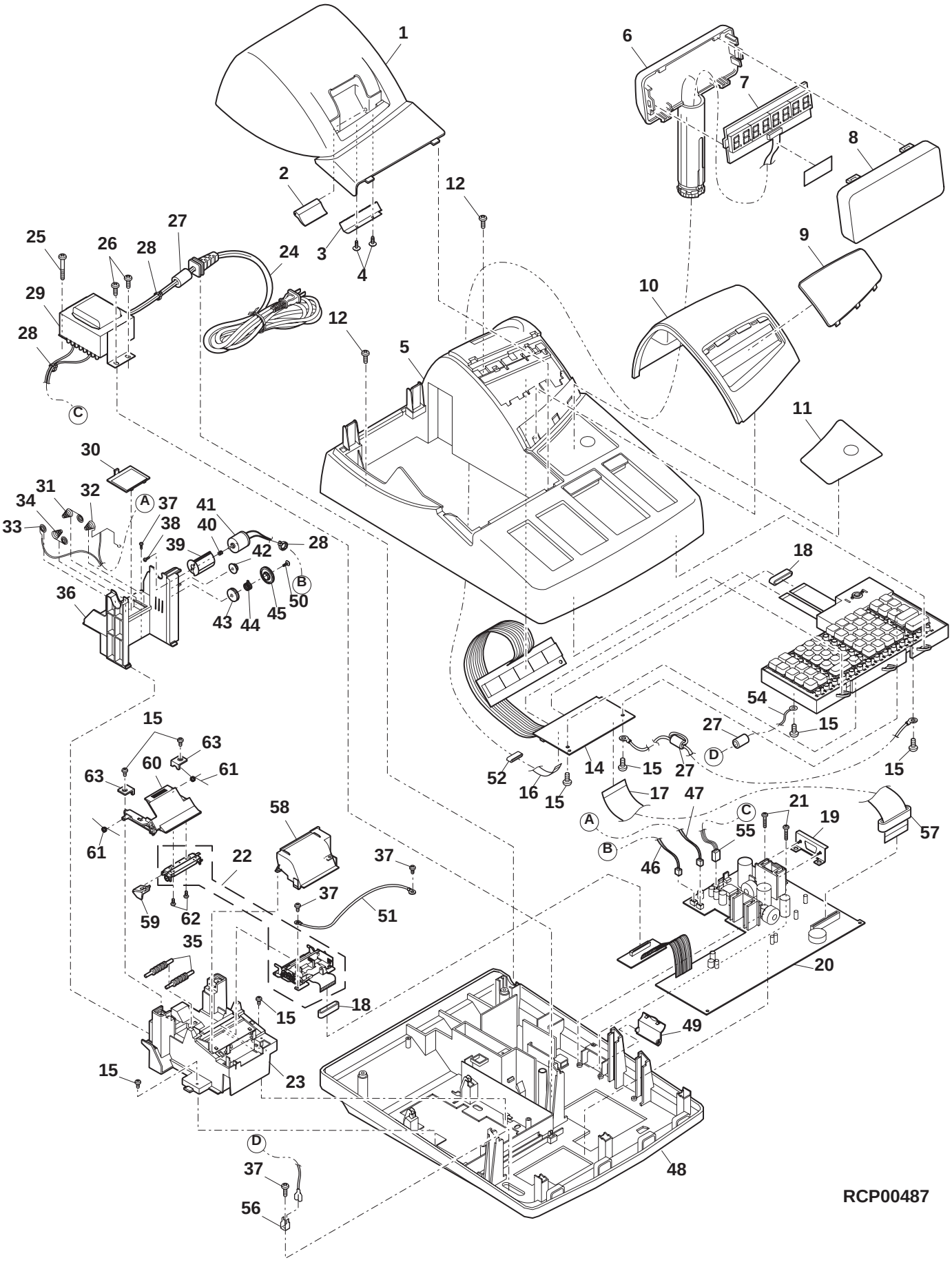
SELECTION CODE	COUNTRIES
RB3	Indonesia
RB4	
RB5	Cyprus
RB6	Panama
RB7	Barbados
RB8	Malaysia (U.S.A. version)

SELECTION CODE	COUNTRIES
RC1	Malaysia (Europe version)
RC2	Singapore
RC5	Dominican Republic, Ecuador

1 Exteriors

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	GCÖVB2527BH01	AX		D	Printer cover unit
2	PGiDH2399RCSA	AC		C	Paper guide
3	PCUT-2326RCZA	AC		C	Paper cutte
4	LX-BZ6788BHZZ	AD		C	Screw
5	GCABB2571BHZZ	BA	N	D	Top cabinet
6	GCABB7861RCSA	AG		D	Pop up cabinet
7	CPWBF2928RCE1	AX		E	Pop up PWB unit
8	PFiLW6961RCSG	AH		D	Pop up filter
9	PFiLW2012BHZZ	AN		D	Display filter
10	GCÖVB2529BHZZ	AS		D	Display cover
11	HDECP2004RCSR	AG	N	D	Deco panel
12	XBBSC30P06000	AA		C	Screw(3×6)
14	CPWBF2920RCE5		N	E	Display+key PWB unit
15	XEBSD30P08000	AA		C	Screw(3×8)
16	QCNW-3186BHZZ	AL		C	Pop up cable
17	QCNW-3042BHZZ	AQ		C	Flat cable(34P)
18	RCÖRF2363RCZZ		N	C	Core(FS40 6.5 12)
19	LANGT2849RCZZ	AC		C	RS-232C angle
20	CPWBF2920RCE3	BV	N	E	Main+Prt PWB unit
21	XHBSD30P18000	AA		C	Screw(3×18)
22	Ki-ÖB2379RCZZ	BF		E	Printer(M-T53II)
23	GCASP2343RCZZ	AT	N	D	P frame 1(MT53)
⚠	QACCE3120BHPA	AK	N	B	AC cord(2.5A/2.5M) (TQ)
⚠ 24	QACCB3120QCPA	AR	N	B	AC cord(13A/2.5M) (KB)
⚠	QACCL1018BHPA	AL	N	B	AC cord(7.5A/2.5M) (KA)
25	XHBSD40P25000	AB		C	Screw(4×25)
26	XUBSD40P08000	AA		C	Screw(4×8)
27	RCÖRF2362RCZZ			C	Core(RH14.2-23.5)
28	LBNDJ2003SCZZ	AA		C	Cable band
⚠ 29	RTRNP2431BHZZ	BE		B	Power transformer (TQ)
⚠	RTRNP2433BHZZ	BE		B	Power transformer (KB,KA)
30	GFTAB6775RCSE	AD		D	Batt cover
31	QTANZ2346BHZA	AF		C	Battery terminal A
32	QTANZ2002BHZZ	AG		C	Battery terminal⊖
33	QTANZ6657BHZA	AD		C	Battery terminal⊕
34	QTANZ2347BHZA	AF		C	Battery terminal B
35	NRÖLP6656RCZZ	AC		C	Rroller
36	GCASP2337BHZZ	AR		D	Battery case
37	XHBSD30P04000	AA		C	Screw(3×4)
38	XBPSD26P05000	AA		C	Screw(2.6×5)
39	GCÖVH2536BHZZ	AG		D	Motor cover
40	NGERH2006RCZZ	AC	N	C	Motor gear
41	RMÖTM2321BHZZ	AS		B	Motor
42	NGERH6644RCZZ	AC		C	Idle gear-S
43	NGERH6643RCZZ	AC		C	Spool gear
44	MSPRD6741BHZZ	AF		C	C/spring
45	NGERH2005BHZZ	AG		C	Idle gear L
46	QCNW-3295RCZZ	AD	N	C	Motor cable(EHR-2)
47	QCNW-3296RCZZ	AD	N	C	Battery cable 1(XHP-2-E)
48	GCABA2572BHZA	BC		D	Bottom cabinet
49	GCÖVH2530BHZZ	AE		D	RS232C cover
50	LX-BZ6786BHZZ	AB		C	Screw(M2×5)
51	QCNW-7768BHZZ	AE		C	Earth wire
52	RCÖRF2358RCZZ			C	Core(FS33.5-6.5)
54	QCNW-3202BHZZ	AE		C	GND wire(TOP–BOTTOM)
55	QCNW-3294RCZZ	AE	N	C	PS cable(VHR-2N)
56	QTANZ6661RCZZ	AC		C	TAB terminal
57	RCÖRF2359RCZZ			C	Core(FS49.6-6.5)
58	GCÖVH2595RCZZ	AN	N	D	P cover 1
59	MLEVP2346RCZZ	AE	N	C	Lever 1
60	GCASP2344RCZZ	AR	N	D	Arm1
61	MSPRD2410RCZZ	AB	N	C	H up spring
62	XJPSD26P05XB0	AA	N	C	Screw(2.6×5XB)
63	GCASP2345RCZZ	AE	N	D	Arm stand

1 Exteriors



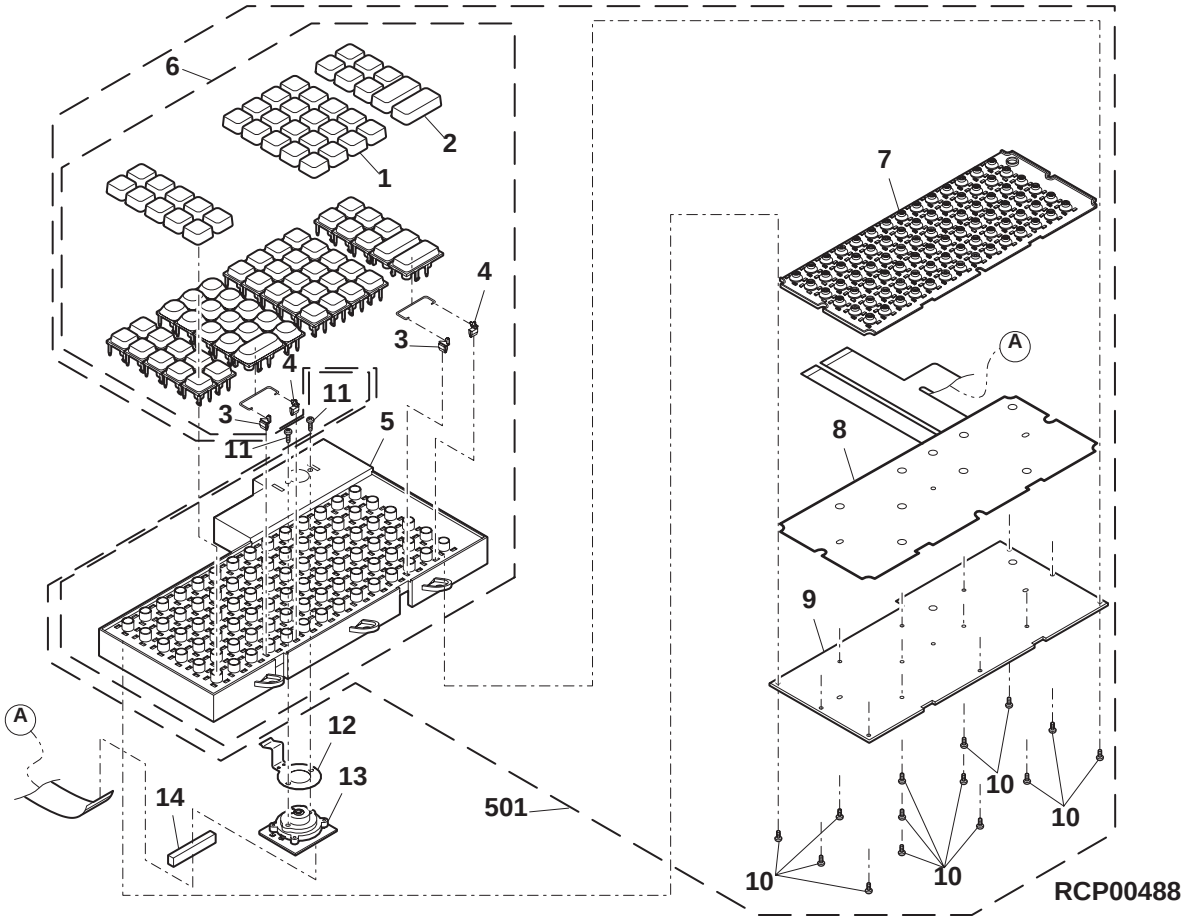
2 Keyboard unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	JKNBZ24224BHZZ	AG		C	Key cap(1×1)
2	JKNBZ24225BHZZ	AN		C	Key cap(1×2)
3	LHLDZ6837BHZZ	AE		C	Holder L(WHITE)
4	LHLDZ6836BHZZ	AE		C	Holder R(YELLOW)
5	LFRM−2366BHZZ	BC		D	Key frame
6	CKNBZ2399BH08		N	C	Key top
7	PGUMM2447BHZZ	BA		C	Key rubber
8	CSHEP2943BHZZ	BD		B	Key sheet assy'
9	LPLTM2368BHZZ	AY		C	Keyboard plate
10	XJPSD30P06000	AA		C	Screw(3×6)
11	XJPSD30P06000	AA		C	Screw(3×6)
12	LANGQ7604RCZZ	AD		C	M/sw earth angle
13	LKGiW0001BHZA	AS		B	Mode sw(body)
14	QCNCM7136BHZZ	AB		C	Connector(MLX 5229-13APB)
501	Ki−ÖK2019BH04	BD	N	E	Keyboard unit

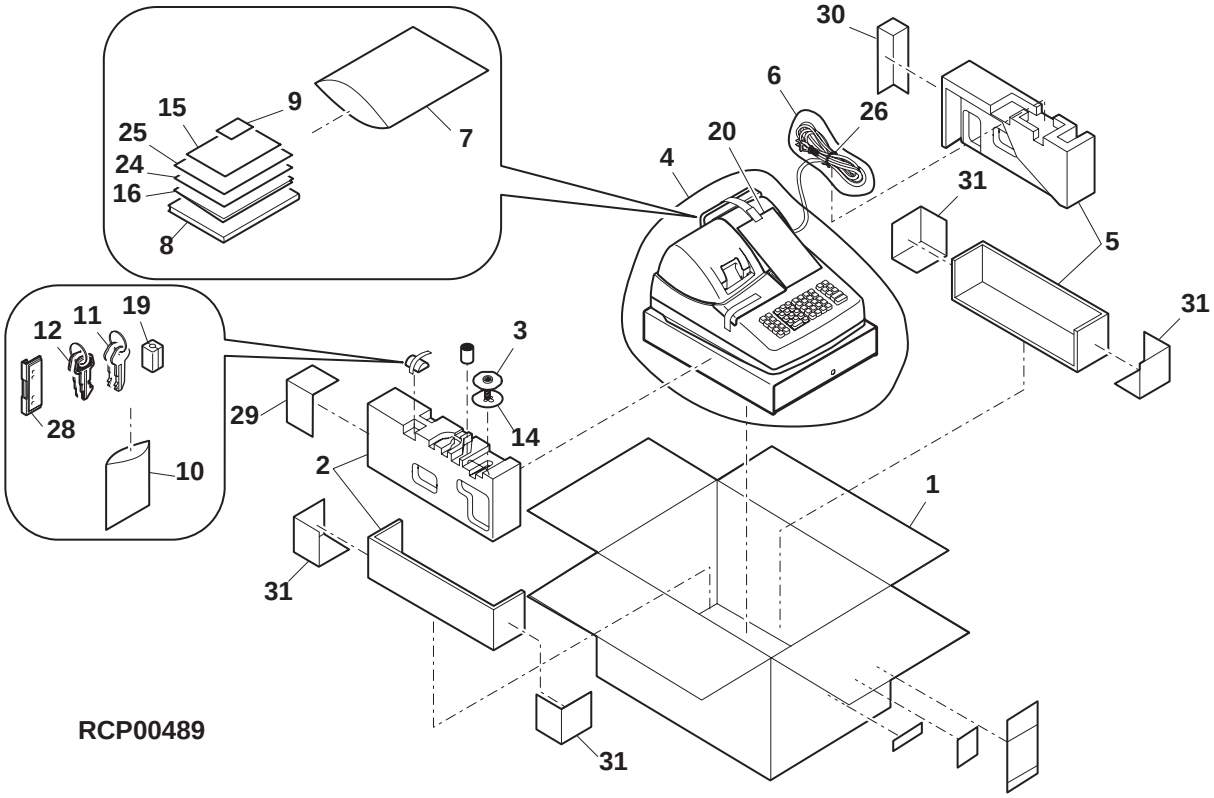
3 Packing material & Accessories

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
1	SPAKC3318RCSA	BU	N	D	Packing case	
2	SPAKA3189RCZL	AS	N	D	Packing add L	[August/2003 running change(QTY:1→0)]
	SPAKA3189RCAL		N	D	Packing add L	[August/2003 running change(QTY:0→1)]
3	NGERH2004RCZZ	AG	N	C	Spool	
4	PSHEP6681RCZZ	AC		D	Sheet	
5	SPAKA3189RCZR	AS	N	D	Packing add R	[August/2003 running change(QTY:1→0)]
	SPAKA3189RCAR		N	D	Packing add R	[August/2003 running change(QTY:0→1)]
6	SSAKH4231CCZZ	AA		D	Vinyl bag(140×500mm)	
7	SSAKH3015CCZZ	AA		D	Vinyl bag(200×300mm)	
8	TiNSM2502RCZZ	BC	N	D	Instruction book	
9	TCAUZ6681BHZZ	AD		D	Battery label	(TQ)
10	SSAKH3012CCZZ	AA		D	Vinyl bag(80×120mm)	
11	LKGiM7331BHZZ	AE		B	Lock key(1pc)	
12	LKGiM7110BHZZ	AE		B	MA key(MA)	
	LKGiM7111BHZZ	AE		B	OP key(OP)	
14	PGiDH2394RCZZ	AG		C	Guide wheel	
15	TGANE6642BHSB	AG		D	Warranty card	(KB)
	TGANE1001BHSA	AG		D	Warranty card	(KA)
16	TCADH2447RCZZ	AE	N	D	Quick sheet	
19	RCORF2361RCZZ			C	Core(UF-90(A))	
20	TCADH2412BHZZ	AD		D	Caution card	
24	TCADZ2001BHZA	AM		D	Install card	(KA)
25	TiNSN7240BHZZ	AF		D	Battery dispose card	
26	LBNDJ0015FCZZ	AA		C	Cable band	
28	LANGK7613RCZZ	AG		C	Fix angle B	
29	PSHEP3244RCZZ			C	Packing add sheet L U	[August/2003 running change(QTY:1→0)]
30	PSHEP3245RCZZ			C	Packing add sheet R U	[August/2003 running change(QTY:1→0)]
31	PSHEP3243RCZZ			C	Packing add sheet Bottom	[August/2003 running change(QTY:1→0)]

2 Keyboard unit



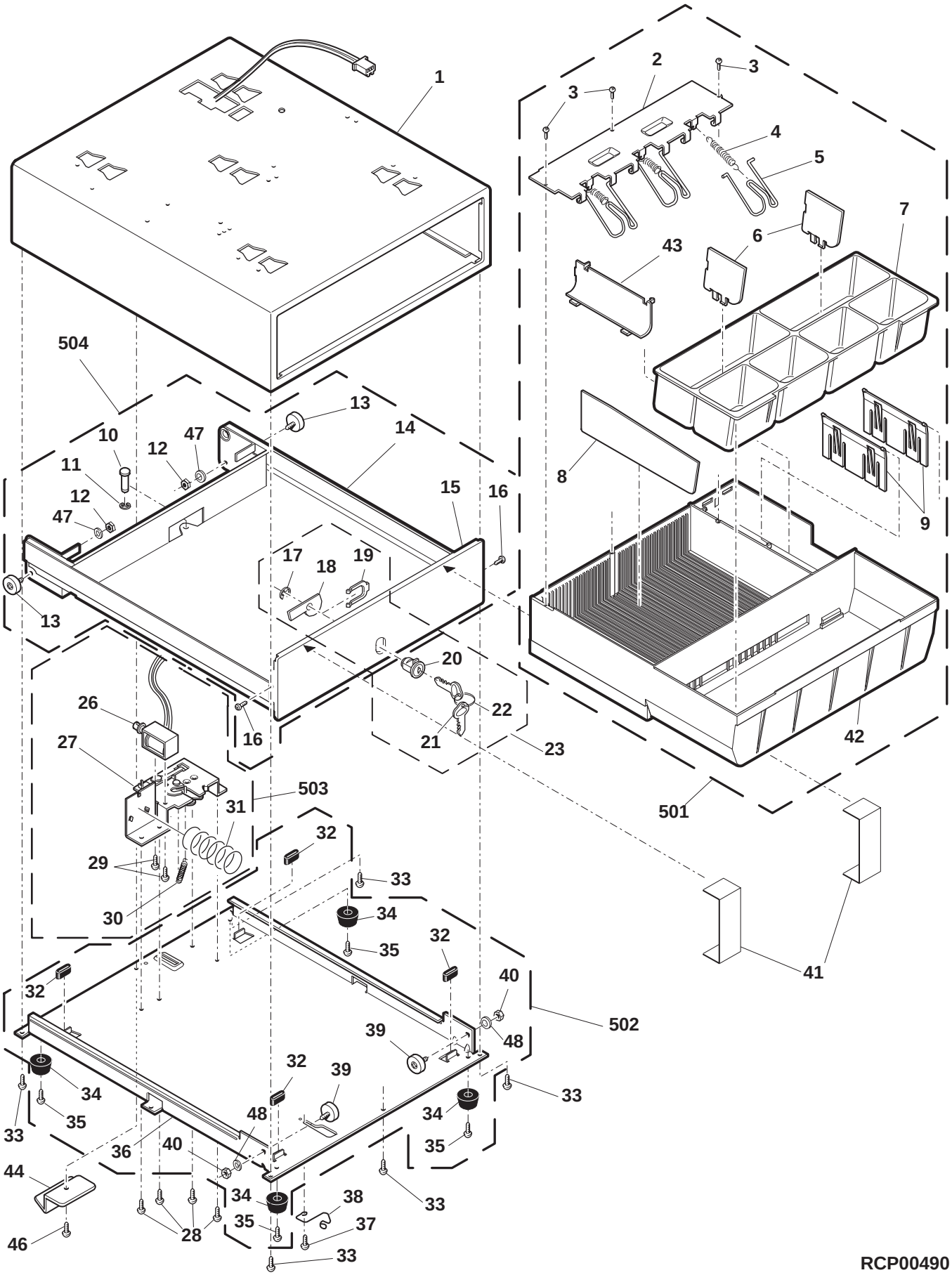
3 Packing material & Accessories



4 Drawer box unit (SJ-420type)

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	CCABM2588RCZZ		N	D	Cabinet unit
2	LPLTM6709RCZZ		N	C	Bracket
3	XUPSD30P08000	AA		C	Screw(3×8)
4	MSPRT6714BHZZ	AE		C	Bill spring
5	MLEVF6695RCZZ		N	C	Bill lever
6	LPLTP6712RCZZ		N	C	coin separator
7	GCASP6701BHZZ	AV		D	Coin case
8	PSKR-6628BHZZ	AG		C	Separator
9	LPLTP6710RCZZ		N	C	Bill plate
10	LPiN-6650BHZZ	AA		C	Lock pin
11	XRESJ40-06000	AA		C	E type ring(4mm)
12	XNESD60-50000	AA		C	Nut(M6)
13	NRÖLP6650BHZZ	AL		C	Roller
14	CDRW-6681RC02		N	D	case frame unit
15	GCÖVA7147BHSA	AT		D	Front cover
16	XHSSD30P06000	AA		C	Screw(M3×6)
17	XRESJ50-06000	AA		C	E type ring(5mm)
18	MCAMM6633RCZA	AE	N	C	Lock cam
19	MSPRK6718BHZZ	AF		C	Lock key spring
20	LKGiW7330RCZZ	AM	N	B	Lock key (body)
21	LKGiM7331BHZZ	AE		B	Lock key(1pc)
22	PRNGT6637BHZZ	AA		C	Key ring
23	DUNT-1306RCZA	AX	N	E	Lock key unit
26	RPLUR2320BH01	AY		B	Solenoid + Drawer cable
27	CFRM-6701BH01	AY		D	Lock frame unit
28	XBPSD40P06K00	AA		C	Screw(4×6K)
29	LX-BZ6775BHZZ	AA		C	Screw(3×5)
30	MSPRT6713BHZZ	AD		C	Open lever spring
31	MSPRC6712BHZZ	AF		C	Push out spring
32	PGUMM6695RCZZ		N	C	Stopper gum
33	LX-BZ6778BHZZ	AA		C	Screw(3×8)
34	PGUMM6727RCZZ		N	C	Gum leg
35	XHBSD40P14000	AA		C	Screw(4×14)
36	LPLTM6708RCZA		N	D	Bottom plate
37	XHPSC30P06000		N	C	screw(3×6)
38	MSPRB6751BHZZ	AF		C	Earth spring
39	NRÖLP6650BHZZ	AL		C	Roller
40	XNESD60-50000	AA		C	Nut(M6)
41	SPAKA8375BHZZ	AD		D	Paper pad
42	GCASP6700RCZC		N	D	Money case(3B/8C)
43	LPLTP6711RCZZ		N	C	Bill guide
44	LANGK7612RCZZ		N	C	Fixing angle-A
46	XHPSD30P06000	AA		C	Screw(3×6)
47	XWSSD60-15000	AA		C	Washer(6mm)
48	XWSSD60-15000	AA		C	Washer(6mm)
501	CCASP6700BH08	BK		E	Money case unit(5B/8C)
502	CPLTM6708RC02		N	E	Bottom plate unit
503	DUNTM5818RC01		N	E	Lock unit [Include No.24~27,29~31,47]
504	CDRW-6683RC01		N	E	Drawer case unit [Include No.10~16]
	(Unit)				
901	CBÖXD7161RC02		N	E	Drawer box unit [5B/8C]

4 Drawer box unit (SJ-420type)



RCP00490

5 Main + Print PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
1	LANGT2849RCZZ	AC		C	RS-232C angle	[CN9]
2	LX-BZ2189BHZZ	AA		C	Screw	[for HEAT SINK]
3	PRDAF2374BHZA	AM		C	Heat sink	[IC2,3]
4	PRDAF2374BHZZ	AM		C	Heat sink	[Q1]
5	QCNCM3020RCZZ	AD	N	C	Short socketJM-2BK-61)	[SP1]
6	QCNCM3021RCZZ		N	C	PS connector(B2P-VH)	[CN1]
7	QCNCM3022RCZZ		N	C	Motor connector(B2B-EH-A)	[CN5]
8	QCNCM3023RCZZ	AC		C	BAT Connector(B2B-XH-A-E)(BLUE)	[CN2]
9	QCNCM7057BHZZ	AB		C	Connector(5045-3)(3pin)	[CN6]
10	QCNCW3016RCZZ	AE	N	C	K/B Connector(34FE-BT-VK-N)	[CN3]
11	QCNW-3156BHZA	AP		C	PR I/F cable 2	[4A~4C]
12	QCNW-3156BHZZ	AN		C	PR I/F cable	[4B~4D]
13	QCNW-7813BHZZ	AF		C	GND wire(MAIN-MAIN)	[G5,6,7]
⚠ 14	QFS-E0001QCZZ	AF		A	Fuse(SEMKO T3.15A/250V)	[F1]
15	QFSHD2109AFZZ	AC		C	Fuse holder(HD2109AF)	[F1]
⚠ 16	QFS-K2005BHZZ	AF		A	Fuse(LT-5 T400mAL/250V)	[F6]
⚠ 17	QFS-K2315BHZZ	AF		A	Fuse(LT5 T1.0AL/250V)	[F3]
18	QPiN-0003GCZZ	AC		C	Pin(T3B-SQ)	[SP1]
19	QSOCN2328BHZZ	AH		C	D-SUB Connector(DBR50-09K1300)	[CN9]
20	RALMB5006SCZZ	AD		B	Buzzer(EFB-RD22C01)	[BZ]
21	RCiLC2422RCZZ		N	C	Coil(220µH)	[L3]
22	RCiLC2427RCZZ		N	C	Coil(180µH)	[L2]
23	RCiLC2428RCZZ		N	C	Coil(63µH)	[L1]
24	RC-EZ106ARC1A	AD		C	Capacitor(10WV 10µF)	[C42]
25	RC-KZ1054CCN2	AB		C	Capacitor(RPE132-906)(50WV 0.1µF)	[C59,66,72,76,77]
	RC-KZ1054CCN2	AB		C	Capacitor(RPE132-906)(50WV 0.1µF)	[C80,89,96]
26	RCORF7002BHZZ	AE		C	Chip core(EFCB322513TS)	[FB8~15]
27	RCRSP6676RCZZ	AG		B	X-TAL(32.768KHz)	[X1]
28	RCRSZ2400RCZZ	AH		B	X-TAL(12MHz)	[X3]
29	VCCCPU1HJ910J		N	C	Capacitor(50WV 91PF)	[C108]
30	VCCCTV1HH101J	AA		C	Capacitor(50WV 100PF)	[C37,57]
31	VCCCTV1HH180J	AA		C	Capacitor(50WV 18pF)	[C43]
32	VCCCTV1HH221J	AA		C	Capacitor(50WV 220PF)	[C40]
33	VCCCTV1HH270J	AA		C	Capacitor(50WV 27pF)	[C44]
34	VCCCTV1HH300J	AA		C	Capacitor(50WV 30pF)	[C56]
35	VCCCTV1HH331J	AA		C	Capacitor(50WV 330PF)	[C73]
36	VCEAGU1CW106M	AA		C	Capacitor(16WV 10µF)(VCEAGA1CW106M)	[C98,C58]
37	VCEAGA1CW337M	AB		C	Capacitor(16WV 330µF)	[C8]
38	VCEAGU1HW106M	AB		C	Capacitor(50WV 10µF)(VCEAGA1HW106M)	[C78,88]
39	VCEAGA1HW227M	AC		C	Capacitor(50WV 220µF)	[C4,11]
40	VCEAGA1HW475M	AA		C	Capacitor(50WV 4.7µF)	[C107]
41	VCEAGU1HW476M	AB		C	Capacitor(50WV 47µF)(VCEAGA1HW476M)	[C75]
42	VCEAGD1CW108M	AE		C	Capacitor(16WV 1000µF)	[C5]
43	VCEAGD1CW478M	AP		C	Capacitor(16WV 4700µF)	[C3]
44	VCEAZU1HW338M		N	C	Capacitor(3300µF/50V)	[C2]
45	VCEAZU1VW108M	AE		C	Capacitor(35WV 1000µF)	[C13]
46	VCKYPU1HB101K	AA		C	Capacitor(50WV 100PF)(VCKYPA1HB101K)	[C16~19,C28~35]
47	VCKYPU1HB102K	AA		C	Capacitor(50WV 1000pF)(VCKYPA1HB102K)	[C90~94]
48	VCKYPU1HB151K	AA		C	Capacitor(50WV 150pF)(VCKYPA1HB151K)	[C20~27,C45~54,(55),70]
49	VCKYTV1HB222K	AA		C	Capacitor(50WV 2200pF)	[C38]
50	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.10µF)	[C10,15,39,41,65]
	VCKYTV1HF104Z	AA		C	Capacitor(50WV 0.10µF)	[C71,74,84~87,97]
51	VCQYKU1HM223K	AB		C	Capacitor(50WV 0.022µF)(VCQYKA1HM223K)	[C12]
52	VCQYNA1HM333K	AA		C	Capacitor(50WV 0.033µF)	[C1]
53	VCQYNU1HM104K	AB		C	Capacitor(50WV 0.10µF)	[C9]
54	VHD1N4002//-1		N	B	Diode(1N4002)	[D7,8]
	VHD1N4002//-1		N	B	Diode(1N4002)	[CN7]
55	VHDCP301///-1	AL		B	Diode(CP301)	[D1]
56	VHDDSS133//-1	AA		B	Diode(1SS133)	[D3,4,5,12,13,16]
57	VHDFMB-G24H/1	AH		B	Diode(FMG-G24H)	[D2]
58	VHDRB060L//-1	AK		B	Diode(RB060L40)	[D6,10]
59	VHDRB721Q//-1	AE		B	Diode(RE721Q)	[D9]
60	VHEMTZJ5R1B-1	AB		B	Zener diode(MTZJ5R1B)	[ZD4]
61	VHEPTZ6.2A/-1	AH		B	Zener diode(PTZ6.2A)	[ZD2]
62	VHEPTZ9.1B+-1	AG		B	Zener diode(PTZ9.1B)	[ZD1]
63	VHEUDZ4.3B/-1	AE		B	Zener diode(UDZ4.3B)	[D11]
64	VHi2574NADJ-1	AW		B	IC(2574NADJ)	[IC1]
65	VHi30624FGA04	BG	N	B	CPU(30624FGA04)	[IC5]
66	VHi621024M7-1	AZ		B	S-RAM 1M(LP621024DM-70)(SOP)	[IC9]
67	VHi80928CNM-1		N	B	IC(S-80928ANMP)	[IC15]
68	VHiBA10393F-1	AC		B	IC(BA10393F)	[IC4]
69	VHiFS781BZB-1	AP		B	IC(FS781BZB)	[IC7]
70	VHiHiN211CA-1	AN		B	IC(HIN211CA)	[IC14]
71	VHiLB1838M+-1	AT		B	IC(LB1838M)	[IC13]
72	VHiPQ1CG2032F	AL		B	IC(PQ1CG2032FZ)	[IC2,3]
73	VHiSN74HC138N	AL		B	IC(74HC138)	[IC16,17]
74	VHiSN74HC374D	AL		B	IC(SN74HC374D)	[IC8]
75	VRD-HT2EY101J	AA		C	Resistor(1/4W 100Ω ±5%)	[R46~53,108~112,246]
76	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R21,22,25,26,27]
	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R28,29,30,31,32]

5 Main + Print PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R37,38,39,40,41]
	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R42,43,44,45,72]
76	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R75,76,77,85,87]
	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R88,89,90,97,99]
	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R242,247]
	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R23,24,33,34,35]
77	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R36,63,64,65,66]
	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R67,68,69,70,71]
	VRD-HT2EY103J	AA		C	Resistor(1/4W 10KΩ ±5%)	[R73,74,79]
78	VRD-HT2EY202J	AA		C	Resistor(1/4W 2KΩ ±5%)	[R98]
79	VRD-HT2EY221J	AA		C	Resistor(1/4W 220Ω ±5%)	[R8]
80	VRD-HT2EY223J	AA		C	Resistor(1/4W 22KΩ ±5%)	[R1]
81	VRD-HT2EY272J	AA		C	Resistor(1/4W 2.7KΩ ±5%)	[R15]
82	VRD-HT2EY330J	AA		C	Resistor(1/4W 33Ω ±5%)	[R249]
83	VRD-HT2EY332J	AA		C	Resistor(1/4W 3.3KΩ ±5%)	[R56]
84	VRD-HT2EY335J	AA		C	Resistor(1/5W 3.3MΩ ±5%)	[R9]
85	VRD-HT2EY472J	AA		C	Resistor(1/4W 4.7KΩ ±5%)	[R100]
86	VRD-HT2EY473J	AA		C	Resistor(1/4W 47KΩ ±5%)	[R78,81,82,83,84]
87	VRD-HT2EY912G	AA		C	Resistor(1/4W 9.1KΩ ±2%)	[R16]
⚠ 88	VRG-ST2EJ100J	AC		B	Fuse resistor(1/4W 10Ω ±5%)	[R2]
89	VRS-CY1JD000J	AA		C	Resistor(1/16W 0Ω ±5%)	[R17,114,244]
90	VRS-CY1JD102J	AA		C	Resistor(1/16W 1.0KΩ ±5%)	[R101,102]
91	VRS-CY1JD103F	AB		C	Resistor(1/16W 10KΩ ±1%)	[R93,94]
92	VRS-CY1JD103J	AA		C	Resistor(1/16W 10KΩ ±5%)	[R11,13,243]
93	VRS-CY1JD104J	AA		C	Resistor(1/16W 100KΩ ±5%)	[R58]
94	VRS-CY1JD183J	AA		C	Resistor(1/16W 18KΩ ±5%)	[R3]
95	VRS-CY1JD222J	AA		C	Resistor(1/16W 2.2KΩ ±5%)	[R113]
96	VRS-CY1JD223J	AA		C	Resistor(1/16W 22KΩ ±5%)	[R10]
97	VRS-CY1JD272J	AA		C	Resistor(1/16W 2.7KΩ ±5%)	[R20]
98	VRS-CY1JD332F	AA		C	Resistor(1/16W 3.3KΩ ±1%)	[R5]
99	VRS-CY1JD330J	AA		C	Resistor(1/16W 33Ω ±5%)	[R62]
100	VRS-CY1JD331J	AA		C	Resistor(1/16W 330Ω ±5%)	[R60]
101	VRS-CY1JD332J	AA		C	Resistor(1/16W 3.3KΩ ±5%)	[R91]
102	VRS-CY1JD471J	AA		C	Resistor(1/16W 470Ω ±5%)	[R86]
103	VRS-CY1JD473J	AA		C	Resistor(1/16W 47KΩ ±5%)	[R55,80]
104	VRS-CY1JD563J	AA		C	Resistor(1/16W 56KΩ ±5%)	[R19]
105	VRS-CY1JD821J	AA		C	Resistor(1/16W 820Ω ±5%)	[R57]
106	VRSCY1JR1782F		N	C	Resistor(1/16W 17.8KΩ ±1% 1608)	[R4]
107	VRS-CY2AY243F	AA		C	Resistor(1/10W 24KΩ ±1%)	[R241]
108	VRS-CY2AY272F	AA		C	Resistor(1/10W 2.7KΩ ±1%)	[R6]
109	VRS-CY2AY303F	AA		C	Resistor(1/10W 30KΩ ±1%)	[R96]
110	VRS-CY2AY392J	AA		C	Resistor(1/10W 3.9KΩ ±5%)	[R18]
111	VRS-CY2AY473F	AA		C	Resistor(1/10W 47KΩ ±1%)	[R59]
112	VRS-CY2AY510J	AA		C	Resistor(1/10W 51Ω ±5%)	[R12]
113	VRS-CY2AY561J	AA		C	Resistor(1/10W 560Ω ±5%)	[R14]
114	VRS-CY2AY911F	AA		C	Transistor(1/10W 910Ω ±1%)	[R7]
115	VRS-TQ2BJ000J		N	C	Transistor(1/8W 0Ω ±5% 3216)	[R248]
116	VS2SD2212++-1	AG		B	Transistor(2SD2212)	[Q9,13]
117	VS2SK2731//-1	AD		B	Transistor(2SK2731)	[Q7]
118	VSKRA106S//-1	AF		B	Transistor(KRA106S)	[Q3]
119	VSKRC106S//-1	AD		B	Transistor(KRC106S)	[Q2,4]
120	VSKRC111S//-1	AD		B	Transistor(KRC111S)	[Q8,14]
121	VSKTD998//-1	AS		B	Transistor(2SD998)	[Q1]
122	XBPSD30P06000	AA		C	Screw(3×6)	[IC2,3,Q1]
201	QCNCW3018RCZZ	AF	N	C	PR Connector(27FMN-BTK-A)	[CN31]
	(Unit)					
901	CPWBF2920RCE3	BV	N	E	Main+Prt PWB unit	

6 Display + Key PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
1	QCNCW2909BHZZ	AK		C	K/B connector(52045-1245)	[CN21]
2	QCNCW2910BHZZ	AK		C	K/B connector(52044-2245)	[CN22]
3	QCNCW3016RCZZ	AE	N	C	K/B connector(34FE-BT-VK-N)	[CN23]
4	QCNCW3017RCZZ	AD	N	C	Key-Pop up K/B connector(15FMN-BTK-A)	[CN24]
5	QCNW-3268RCZZ	AE	N	C	Display-Key cable	
6	QCNW-3320RCZZ		N	C	GND wire	
7	RC-KZ1054CCN2	AB		C	Capacitor(RPE132-906)(50WV 0.1μF)	[C105]
8	VCEAGU1CW107M	AB		C	Capacitor(16WV 100μF)	[C104]
9	VCKYPU1HB101K	AA		C	Capacitor(50WV 100PF)(VCKYPA1HB101K)	[C106]
10	VHDDSS133//-1	AA		B	Diode(1SS133)	[D21~31]
11	VHiKiD65083AP	AM		B	IC(KID65083AP)	[IC23]
12	VRD-HT2EY121J	AA		C	Resistor(1/4W 120Ω ±5%)	[R218~227]
13	VRD-HT2EY473J	AA		C	Resistor(1/4W 47KΩ ±5%)	[R201~207,228]
14	VRS-CY1JD123J	AA		C	Resistor(1/16W 12KΩ ±5%)	[R208~217]
15	VSKRA101M//-1	AD		B	Transistor(KRA101M)	[Q29~38]

6 Display + Key PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
16	VSKTA1663//-1	AE		B	Transistor(KTA1663) [Q23~28,39]
17	VSKTA1664//-1	AD		B	Transistor(KTA1664) [Q20~22]
101	VHPLA56S2S20C	AQ		B	LED(LA56S2-S2) [LED1~5]
102	VRD-HT2EY300J	AA		C	Resistor(1/4W 30Ω ±5%) [R233~240]
	(Unit)				
901	CPWBF2920RCE5		N	E	Display+key PWB unit

7 Pou up PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	QCNCW7202BH1E	AK		C	Connector(52807-1510) [CN1]
2	VHPLA56S2S20C	AQ		B	LED(LA56S2-S2) [LED6,LED7,LED8]
3	VHPLA56S1S20C	AN		B	LED(LA56S1-S2) [LED9]
4	VRD-HT2EY270J	AA		C	Resistor(1/4W 27Ω ±5%) [R1,R2,R3,R4,R5,R6,R7,R8]
	(Unit)				
901	CPWBF2928RCE1	AX		E	Pop up PWB unit

8 Articles for compsumption

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	TPAPR2377RC05	AY		S	Roll paper(5roll/pack)

9 Special service tools

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	UKÖG-6705RCZZ	BC		S	RS-232 loop back connector
2	UKÖG-2365BHZZ			S	POS tools(IPL Software)

■ Index

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK	
【C】					
CBOXD7161RC02	4-901		N	E	
CCABM2588RCZZ	4- 1		N	D	
CCASP6700BH08	4-501	BK		E	
CDRW-6681RC02	4- 14		N	D	
CDRW-6683RC01	4-504		N	E	
CFRM-6701BH01	4- 27	AY		D	
CKNBZ2399BH08	2- 6		N	C	
CPLTM6708RC02	4-502		N	E	
CPWBF2920RCE3	1- 20	BV	N	E	
〃	5-901	BV	N	E	
CPWBF2920RCE5	1- 14		N	E	
〃	6-901		N	E	
CPWBF2928RCE1	1- 7	AX		E	
〃	7-901	AX		E	
CSHEP2943BHZZ	2- 8	BD		B	
【D】					
DUNT-1306RCZA	4- 23	AX	N	E	
DUNTM5818RC01	4-503		N	E	
【G】					
GCABA2572BHZA	1- 48	BC		D	
GCABB2571BHZZ	1- 5	BA	N	D	
GCABB7861RCSA	1- 6	AG		D	
GCASP2337BHZZ	1- 36	AR		D	
GCASP2343RCZZ	1- 23	AT	N	D	
GCASP2344RCZZ	1- 60	AR	N	D	
GCASP2345RCZZ	1- 63	AE	N	D	
GCASP6700RCZC	4- 42		N	D	
GCASP6701BHZZ	4- 7	AV		D	
GCOVA7147BHSA	4- 15	AT		D	
GCOVB2527BH01	1- 1	AX		D	
GCOVB2529BHZZ	1- 10	AS		D	
GCOVH2530BHZZ	1- 49	AE		D	
GCOVH2536BHZZ	1- 39	AG		D	
GCOVH2595RCZZ	1- 58	AN	N	D	
GFTAB6775RCSE	1- 30	AD		D	
【H】					
HDECP2004RCSR	1- 11	AG	N	D	
【J】					
JKNBZ2424BHZZ	2- 1	AG		C	
JKNBZ2425BHZZ	2- 2	AN		C	
【K】					
Ki-OB2379RCZZ	1- 22	BF		E	
Ki-OK2019BH04	2-501	BD	N	E	
【L】					
LANGK7612RCZZ	4- 44		N	C	
LANGK7613RCZZ	3- 28	AG		C	
LANGQ7604RCZZ	2- 12	AD		C	
LANGT2849RCZZ	1- 19	AC		C	
〃	5- 1	AC		C	
LBNDJ0015FCZZ	3- 26	AA		C	
LBNDJ2003SCZZ	1- 28	AA		C	
LFRM-2366BHZZ	2- 5	BC		D	
LHLDZ6836BHZZ	2- 4	AE		C	
LHLDZ6837BHZZ	2- 3	AE		C	
LKGiM7110BHZZ	3- 12	AE		B	
LKGiM7111BHZZ	3- 12	AE		B	
LKGiM7331BHZZ	3- 11	AE		B	
〃	4- 21	AE		B	
LKGiW0001BHZA	2- 13	AS		B	
LKGiW7330RCZZ	4- 20	AM	N	B	
LPiN-6650BHZZ	4- 10	AA		C	
LPLTM2368BHZZ	2- 9	AY		C	
LPLTM6708RCZA	4- 36		N	D	
LPLTM6709RCZZ	4- 2		N	C	
LPLTP6710RCZZ	4- 9		N	C	
LPLTP6711RCZZ	4- 43		N	C	
LPLTP6712RCZZ	4- 6		N	C	
LX-BZ2189BHZZ	5- 2	AA		C	
LX-BZ6775BHZZ	4- 29	AA		C	
LX-BZ6778BHZZ	4- 33	AA		C	
LX-BZ6786BHZZ	1- 50	AB		C	
LX-BZ6788BHZZ	1- 4	AD		C	
【M】					
MCAMM6633RCZA	4- 18	AE	N	C	
MLEVF6695RCZZ	4- 5		N	C	
MLEVP2346RCZZ	1- 59	AE	N	C	
MSPRB6751BHZZ	4- 38	AF		C	
MSPRC6712BHZZ	4- 31	AF		C	

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK	
MSPRD2410RCZZ	1- 61	AB	N	C	
MSPRD6741BHZZ	1- 44	AF		C	
MSPRK6718BHZZ	4- 19	AF		C	
MSPRT6713BHZZ	4- 30	AD		C	
MSPRT6714BHZZ	4- 4	AE		C	
【N】					
NGERH2004RCZZ	3- 3	AG	N	C	
NGERH2005BHZZ	1- 45	AG		C	
NGERH2006RCZZ	1- 40	AC	N	C	
NGERH6643RCZZ	1- 43	AC		C	
NGERH6644RCZZ	1- 42	AC		C	
NROLP6650BHZZ	4- 13	AL		C	
〃	4- 39	AL		C	
NROLP6656RCZZ	1- 35	AC		C	
【P】					
PCUT-2326RCZA	1- 3	AC		C	
PFiLW2012BHZZ	1- 9	AN		D	
PFiLW6961RCSG	1- 8	AH		D	
PGiDH2394RCZZ	3- 14	AG		C	
PGiDH2399RCSA	1- 2	AC		C	
PGUMM2447BHZZ	2- 7	BA		C	
PGUMM6695RCZZ	4- 32		N	C	
PGUMM6727RCZZ	4- 34		N	C	
PRDAF2374BHZA	5- 3	AM		C	
PRDAF2374BHZZ	5- 4	AM		C	
PRNGT6637BHZZ	4- 22	AA		C	
PSHEP3243RCZZ	3- 31			C	
PSHEP3244RCZZ	3- 29			C	
PSHEP3245RCZZ	3- 30			C	
PSHEP6681RCZZ	3- 4	AC		D	
PSKR-6628BHZZ	4- 8	AG		C	
【Q】					
QACCB3120QCPA	1- 24	AR	N	B	
QACCE3120BHPA	1- 24	AK	N	B	
QACCL1018BHPA	1- 24	AL	N	B	
QCNCM3020RCZZ	5- 5	AD	N	C	
QCNCM3021RCZZ	5- 6		N	C	
QCNCM3022RCZZ	5- 7		N	C	
QCNCM3023RCZZ	5- 8	AC		C	
QCNCM7057BHZZ	5- 9	AB		C	
QCNCM7136BHZZ	2- 14	AB		C	
QCNCW2909BHZZ	6- 1	AK		C	
QCNCW2910BHZZ	6- 2	AK		C	
QCNCW3016RCZZ	5- 10	AE	N	C	
〃	6- 3	AE	N	C	
QCNCW3017RCZZ	6- 4	AD	N	C	
QCNCW3018RCZZ	5-201	AF	N	C	
QCNCW7202BH1E	7- 1	AK		C	
QCNW-3042BHZZ	1- 17	AQ		C	
QCNW-3156BHZA	5- 11	AP		C	
QCNW-3156BHZZ	5- 12	AN		C	
QCNW-3186BHZZ	1- 16	AL		C	
QCNW-3202BHZZ	1- 54	AE		C	
QCNW-3268RCZZ	6- 5	AE	N	C	
QCNW-3294RCZZ	1- 55	AE	N	C	
QCNW-3295RCZZ	1- 46	AD	N	C	
QCNW-3296RCZZ	1- 47	AD	N	C	
QCNW-3320RCZZ	6- 6		N	C	
QCNW-7768BHZZ	1- 51	AE		C	
QCNW-7813BHZZ	5- 13	AF		C	
QFS-E0001QCZZ	5- 14	AF		A	
QFSHD2109AFZZ	5- 15	AC		C	
QFS-K2005BHZZ	5- 16	AF		A	
QFS-K2315BHZZ	5- 17	AF		A	
QPiN-0003GCZZ	5- 18	AC		C	
QSOCN2328BHZZ	5- 19	AH		C	
QTANZ2002BHZZ	1- 32	AG		C	
QTANZ2346BHZA	1- 31	AF		C	
QTANZ2347BHZA	1- 34	AF		C	
QTANZ6657BHZA	1- 33	AD		C	
QTANZ6661RCZZ	1- 56	AC		C	
【R】					
RALMB5006SCZZ	5- 20	AD		B	
RC-EZ106ARC1A	5- 24	AD		C	
RCiLC2422RCZZ	5- 21		N	C	
RCiLC2427RCZZ	5- 22		N	C	
RCiLC2428RCZZ	5- 23		N	C	
RC-KZ1054CCN2	5- 25	AB		C	
〃	6- 7	AB		C	
RCORF2358RCZZ	1- 52			C	
RCORF2359RCZZ	1- 57			C	

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RCŌRF2361RCZZ	3- 19			C	
RCŌRF2362RCZZ	1- 27			C	
RCŌRF2363RCZZ	1- 18		N	C	
RCŌRF7002BHZZ	5- 26	AE		C	
RCRSP6676RCZZ	5- 27	AG		B	
RCRSZ2400RCZZ	5- 28	AH		B	
RMŌTM2321BHZZ	1- 41	AS		B	
RPLUR2320BH01	4- 26	AY		B	
RTRNP2431BHZZ	1- 29	BE		B	
RTRNP2433BHZZ	1- 29	BE		B	
【S】					
SPAKA3189RCAL	3- 2		N	D	
SPAKA3189RCAR	3- 5		N	D	
SPAKA3189RCZL	3- 2	AS	N	D	
SPAKA3189RCZR	3- 5	AS	N	D	
SPAKA8375BHZZ	4- 41	AD		D	
SPAKC3318RCSA	3- 1	BU	N	D	
SSAKH3012CCZZ	3- 10	AA		D	
SSAKH3015CCZZ	3- 7	AA		D	
SSAKH4231CCZZ	3- 6	AA		D	
【T】					
TCADH2412BHZZ	3- 20	AD		D	
TCADH2447RCZZ	3- 16	AE	N	D	
TCADZ2001BHZA	3- 24	AM		D	
TCAUZ6681BHZZ	3- 9	AD		D	
TGANE1001BHSA	3- 15	AG		D	
TGANE6642BHSB	3- 15	AG		D	
TiNSM2502RCZZ	3- 8	BC	N	D	
TiNSN7240BHZZ	3- 25	AF		D	
TPAPR2377RC05	8- 1	AY		S	
【U】					
UKŌG-2365BHZZ	9- 2			S	
UKŌG-6705RCZZ	9- 1	BC		S	
【V】					
VCCCPU1HJ910J	5- 29		N	C	
VCCCTV1HH101J	5- 30	AA		C	
VCCCTV1HH180J	5- 31	AA		C	
VCCCTV1HH221J	5- 32	AA		C	
VCCCTV1HH270J	5- 33	AA		C	
VCCCTV1HH300J	5- 34	AA		C	
VCCCTV1HH331J	5- 35	AA		C	
VCEAGA1CW337M	5- 37	AB		C	
VCEAGA1HW227M	5- 39	AC		C	
VCEAGA1HW475M	5- 40	AA		C	
VCEAGD1CW108M	5- 42	AE		C	
VCEAGD1CW478M	5- 43	AP		C	
VCEAGU1CW106M	5- 36	AA		C	
VCEAGU1CW107M	6- 8	AB		C	
VCEAGU1HW106M	5- 38	AB		C	
VCEAGU1HW476M	5- 41	AB		C	
VCEAZU1HW338M	5- 44		N	C	
VCEAZU1VW108M	5- 45	AE		C	
VCKYPU1HB101K	5- 46	AA		C	
〃	6- 9	AA		C	
VCKYPU1HB102K	5- 47	AA		C	
VCKYPU1HB151K	5- 48	AA		C	
VCKYTV1HB222K	5- 49	AA		C	
VCKYTV1HF104Z	5- 50	AA		C	
VCQYKU1HM223K	5- 51	AB		C	
VCQYNA1HM333K	5- 52	AA		C	
VCQYNU1HM104K	5- 53	AB		C	
VHD1N4002//-1	5- 54		N	B	
VHDCP301///-1	5- 55	AL		B	
VHDDSS133//-1	5- 56	AA		B	
〃	6- 10	AA		B	
VHDFMB-G24H/1	5- 57	AH		B	
VHDRB060L//-1	5- 58	AK		B	
VHDRB721Q//-1	5- 59	AE		B	
VHEMTZJ5R1B-1	5- 60	AB		B	
VHEPTZ6.2A/-1	5- 61	AH		B	
VHEPTZ9.1B+-1	5- 62	AG		B	
VHEUDZ4.3B/-1	5- 63	AE		B	
VHi2574NADJ-1	5- 64	AW		B	
VHi30624FGA04	5- 65	BG	N	B	
VHi621024M7-1	5- 66	AZ		B	
VHi80928CNM-1	5- 67		N	B	
VHiBA10393F-1	5- 68	AC		B	
VHiFS781BZB-1	5- 69	AP		B	
VHiHiN211CA-1	5- 70	AN		B	
VHiKiD65083AP	6- 11	AM		B	
VHiLB1838M+-1	5- 71	AT		B	

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VHiPQ1CG2032F	5- 72	AL		B	
VHiSN74HC138N	5- 73	AL		B	
VHiSN74HC374D	5- 74	AL		B	
VHPLA56S1S20C	7- 3	AN		B	
VHPLA56S2S20C	6-101	AQ		B	
〃	7- 2	AQ		B	
VRD-HT2EY101J	5- 75	AA		C	
VRD-HT2EY103J	5- 76	AA		C	
〃	5- 77	AA		C	
VRD-HT2EY121J	6- 12	AA		C	
VRD-HT2EY202J	5- 78	AA		C	
VRD-HT2EY221J	5- 79	AA		C	
VRD-HT2EY223J	5- 80	AA		C	
VRD-HT2EY270J	7- 4	AA		C	
VRD-HT2EY272J	5- 81	AA		C	
VRD-HT2EY300J	6-102	AA		C	
VRD-HT2EY330J	5- 82	AA		C	
VRD-HT2EY332J	5- 83	AA		C	
VRD-HT2EY335J	5- 84	AA		C	
VRD-HT2EY472J	5- 85	AA		C	
VRD-HT2EY473J	5- 86	AA		C	
〃	6- 13	AA		C	
VRD-HT2EY912G	5- 87	AA		C	
VRG-ST2EJ100J	5- 88	AC		B	
VRS-CY1JD000J	5- 89	AA		C	
VRS-CY1JD102J	5- 90	AA		C	
VRS-CY1JD103F	5- 91	AB		C	
VRS-CY1JD103J	5- 92	AA		C	
VRS-CY1JD104J	5- 93	AA		C	
VRS-CY1JD123J	6- 14	AA		C	
VRS-CY1JD183J	5- 94	AA		C	
VRS-CY1JD222J	5- 95	AA		C	
VRS-CY1JD223J	5- 96	AA		C	
VRS-CY1JD272J	5- 97	AA		C	
VRS-CY1JD330J	5- 99	AA		C	
VRS-CY1JD331J	5-100	AA		C	
VRS-CY1JD332F	5- 98	AA		C	
VRS-CY1JD332J	5-101	AA		C	
VRS-CY1JD471J	5-102	AA		C	
VRS-CY1JD473J	5-103	AA		C	
VRS-CY1JD563J	5-104	AA		C	
VRS-CY1JD821J	5-105	AA		C	
VRSCY1JR1782F	5-106		N	C	
VRS-CY2AY243F	5-107	AA		C	
VRS-CY2AY272F	5-108	AA		C	
VRS-CY2AY303F	5-109	AA		C	
VRS-CY2AY392J	5-110	AA		C	
VRS-CY2AY473F	5-111	AA		C	
VRS-CY2AY510J	5-112	AA		C	
VRS-CY2AY561J	5-113	AA		C	
VRS-CY2AY911F	5-114	AA		C	
VRS-TQ2BJ000J	5-115		N	C	
VS2SD2212++-1	5-116	AG		B	
VS2SK2731//-1	5-117	AD		B	
VSKRA101M//-1	6- 15	AD		B	
VSKRA106S//-1	5-118	AF		B	
VSKRC106S//-1	5-119	AD		B	
VSKRC111S//-1	5-120	AD		B	
VSKTA1663//-1	6- 16	AE		B	
VSKTA1664//-1	6- 17	AD		B	
VSKTD998///-1	5-121	AS		B	
【X】					
XBBSC30P06000	1- 12	AA		C	
XBPSD26P05000	1- 38	AA		C	
XBPSD30P06000	5-122	AA		C	
XBPSD40P06K00	4- 28	AA		C	
XEBSD30P08000	1- 15	AA		C	
XHBSD30P04000	1- 37	AA		C	
XHBSD30P18000	1- 21	AA		C	
XHBSD40P14000	4- 35	AA		C	
XHBSD40P25000	1- 25	AB		C	
XHPSC30P06000	4- 37		N	C	
XHPSD30P06000	4- 46	AA		C	
XHSSD30P06000	4- 16	AA		C	
XJPSD26P05XB0	1- 62	AA	N	C	
XJPSD30P06000	2- 10	AA		C	
〃	2- 11	AA		C	
XNESD60-50000	4- 12	AA		C	
〃	4- 40	AA		C	
XRESJ40-06000	4- 11	AA		C	
XRESJ50-06000	4- 17	AA		C	

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK	
XUBSD40P08000	1- 26	AA		C	
XUPSD30P08000	4- 3	AA		C	
XWSSD60−15000	4- 47	AA		C	
〃	4- 48	AA		C	

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK	

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